



## **A New York Graduate's Experience with a Western State Board.**

By F. B. SPOONER, D.D.S., Brooklyn, N. Y.

Much has been said of the action of State Boards, therefore it might cast some light on the subject if I tell how a New York man was treated in the State of Colorado.

I found myself in Denver, Col., in March, 1902, where I had gone to rest from nervous prostration. The first difficulty experienced was that, having been years in practice, I had not my diploma on hand. I did have the State Board certificate. I showed this to the secretary. It was not enough. I must exhibit a diploma. Explanation was made that the diploma was lost, but that the paper shown was proof of a diploma. The secretary gravely told me that it was for the action of the Board.

The examination took place in June. I read up on all matters that I could think of, and had not the remotest idea that I would not pass.

### **Theoretical Examination.**

Our first paper was on anatomy. I do not recall the whole of it. There was the old question about the fifth pair of nerves. Next was a question at which the whole class rose, one by one, declaring that they did not "know what it meant." After some reflection the professor announced we could "cut it out."

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The next was "What nerve besides the fifth contributes to speech." To save my life I did not feel sure, and I later asked five physicians and they could not tell me.

The following was easier:

"What is the function of the inferior portion of the superior maxillary bone?"

Here were two choices. Estimating the intelligence of the examiner, I thought "Does he think the teeth are bone, or does he call the inferior portion the 'sockets'?"

To make sure I gave both answers. The rest of the questions were similar, one childish in its simplicity, the other only to be answered by a man fresh from school, who remembers all about the circle of Willis.

In the other subjects I noticed a similar lack of asking what was to test the knowledge of dentistry as practised. For example, what dentist has to make chloroform, refine his gold, or be acquainted with the chemical sign of drugs rarely found in use, and that he has not the lawful right to use?

I saw nothing in all this examination of pyorrhoea, facial neuralgia, digestion, and kindred subjects that would well test an applicant before an intelligent board. What man long out of college knows things that he leaves to the instrument maker? What dentist has the leisure to keep up with making drugs, much better made by a laboratory, unless he be in a barbarous country, and then he can take his book and find out.

I answered all the questions that I could, and to the rest skirted around them with an intelligent explanation, feeling buoyed up by the hope that the reader of the paper would understand that the writer was rusty in theory. And right here I will say that all the writers were told to put their name, the address, and the college, with date of graduation, on the papers.

I will ask the reader to supply the reason for this. To me at the time I thought it was to enable the board to discriminate, but events showed that I was judged to have failed in anatomy, physiology, chemistry and something else.

### **Practical Examination.**

Next came practical work. I arranged with a student, as well as with two colored men, to come to the college. Neither of them appeared. While waiting, I looked through the line of men at work.

There I saw that care had been taken to have cavities that needed no separation. Most of them were in the occlusal surfaces of molars, or bicuspid, some on the labial aspect. One young woman had a sixth year molar with four walls. I asked her if they did not teach putting something between the thin layer covering the pulp and the gold. She said she did

not think it was necessary. I heard one of the examiners commending the work, which must have taken two hours. I thought, "If this is what they want I will get my case through in twenty minutes, and try Dr. Flagg's method of napkins."

But my men did not appear. I spoke to one of the examiners, asking, after explaining the case, if he would not dispense with the evidence that I could fill a tooth.

He stared at me and said: "That is none of our business."

Again I explained, and in the same rough way he turned away with no answer. Shocked at this, for the first time a doubt came into my mind. Two more of the men were also abrupt, and I was astonished, as I was much the senior of any of them.

Presently one of these men ran up and down the room, announcing, "All work must be done by twelve o'clock."

Here was a dilemma. At this moment someone came, saying: "Here is a case for you."

The subject was a sickly little woman, with two tiny children hanging to her. The only tooth I could find was a central. The lateral had grown across it. Decay was deep under the gum, slight at the anterior, more at the posterior, or lingual part.

Caries had progressed so that the chances were that the pulp was exposed. Way up under the gum I could find no firm tissue. I called the examiner, showing the conditions.

"I should call that an easy one," he said.

The only thing to do was to start, and I had a suspicion that they were waiting to see how I would compass the operation.

I found it difficult to get on the dam, as the teeth lapped so closely, and half a dozen times the ligature cut. Then was revealed decay so far up that I could not get the dam above the involved surface, for fear the groaning woman would faint. Dreading to cut away much enamel lest I have not time to do the work, I burred all the decay as far as I dare, and not strike something. Glad I was to get the gold to hold at all.

Stopping for a moment to rest, I saw the man who had said the cavity was "easy." He stood about ten paces off looking my way. Why did he stand aloof, not approaching with a friendly word? I thought of the opera, where the man dressed in red, with a feather in his cap, looks at the unfortunate Faust.

This did not comfort me, but I finished my work, and then saw the blond gentleman in the same place. I motioned to him. He started with such alacrity, squaring his shoulders as he came, that my heart sank. I realized that I must placate this man, as something in his manner through all the examination looked as if he swayed the rest.





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He had an excavator in his hand as he came forward jauntily. He thrust it under the rubber dam and called out:

"Dr. Hoff! Dr. Hoff! come here, quick!"

Dr. Hoff did not respond at once. While waiting the blond gentleman stood on the opposite side of the chair, his head hanging down looking at the ground, the hand that held the excavator swinging to and fro.

I remarked: "Doctor, the filling is not first class, but do you think this is a case that can be done without space?"

Not a word would he reply to me, but stood in the same attitude. This surprised me, as he was fifteen years my junior. As he would not speak, we stood in this rather awkward way for possibly a minute. Strange to say he reminded me of the late Dr. Abbott, of the New York College of Dentistry. Only in his well knit, athletic figure, and steely eye, for here all resemblance to the courtly gentleman ceased. I had a chance while waiting for Dr. Hoff to think of the time years ago when I was examined as to my fitness. What a difference from the educated professors in the East, who were polite to those under them because they were well bred, and did not swagger, being used to authority.

Dr. Hoff arrived, and glanced with inquiry to the blond man.

"Look under the gum, Dr. Hoff; look under the gum. Go up deep!" This in a tone of impatience.

Dr. Hoff then went "deep up" and nodded his head. They then retired, and I saw five of the examiners with their heads together. The blond man was talking to the others and his arms were moving. Stepping up to them I said: "Gentlemen, the filling is not good, but if you will give me time to make a separation, I will make it all right."

The blond man said: "Dr. Grey, did you examine the preparation of that cavity, and was it all right?"

Dr. Grey (who was an old man) started, and looked perplexed, as he replied that he had, and that the excavation was good.

Now the fact is that no one had approached me from the start of the work but this same blond man. Yet I did not think it wise to contradict.

"Gentlemen," I said, "look at the patient. She is delicate. I must have room to work. Give me the opportunity to pack it. No man can make good work without preliminary separation."

I might have added "And no *dentist* would try to fill such a tooth with gold at all."

They all stared at this, and then the blond man started to walk away, but he made a circle and came back, making this remarkable statement:

"I will bet I could fill *that tooth*."

It was finally decided that as a favor I was to have another trial the



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next day, and as the blond man had to go home, two of the examiners in Denver were to judge.

Next morning I hired an engine of the janitor, and spent two hours to put in a gold filling in a tooth that should never have had anything but cement. I got the gold well up onto the cervical margin; well down over the edges. To polish it was a hard matter, as I had only disks to work with; and, thinking I had done great things, I took the exhausted woman to a restaurant with her two children, and afterwards to the office of Dr. Hoff. There we waited for an hour. On looking at the case, instead of commending it he was very grave.

"The margins are not very good," he said.

"Look at the woman," I said; "she is near to a collapse. Do you want me to show you that I can use sandpaper strips?"

"I will leave it to Dr. ———," he said.

Downstairs, out into the hot sun. Cold perspiration streaming from me, and a whining woman, and the two children wanting to go home and a drink of water. Away to the other side of Denver. At the top of a building was the other judge.

He picked at it, and finding the cervical portion all right, said: "Doctor, that filling will not last a year."

I wanted to say to him: "A *year*, it won't be in a week. She will have pulpitis."

What I did say was: "Doctor, you may as well tell me now if you are going to pass that filling, as it is the best I can do under the conditions."

Said he: "I must consider my oath, and will ask Dr. Hoff."

This man, however, was the nearest to being kindly of all. He showed me an impression of the upper jaw, telling me with some pride that he was going to make a metal plate with rubber attachments. He proposed to get an undercut by using false *cores*. It did not seem to me a very novel method, as I had a hazy recollection of making one the first year I was at college and being called "*Doc*."

I left my patient in the street, first giving her a present to salve my conscience, and telling her if she had pain in a few days to go to a *good* dentist and tell him to take out the filling.

After this I left Denver, staying at a lovely town called Longmont. For about a month or six weeks I heard not a word. One day I met a young man in the street. I recalled him, as he was at the examination with me. He was a graduate of the Denver college. He had asked me:

"Doc, what is an obtunding agent?"

I asked him what had led him into dentistry, and got the answer that he had been a roofer, and thought that dentistry was a better *trade*. He



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had passed the board, and was looking for a location, or as he expressed it, "a stand." He was a fine looking, handsome man, somewhat on the type of the blond doctor. He had a hand like a ham and was hairy as Esau. Wondering why this man was looking for a "stand," while I had not heard a word, I wrote to the secretary, feeling encouraged at the thought that if they meant to turn me down they would not leave me to waste time. The answer that I got was:

"Your examinaion was not satisfactory to the Board."

I wrote again, asking if I was not entitled to a bill of particulars, for all my time wasted and the ten dollars. This is what was returned:

"You failed in four subjects, as well as operating, and will have to brush up considerably before coming up again."

On my way home I called on one of the examiners in Denver.

"Dr. ———," I said; "if I come back here six months from now, I want to ask you candidly if you gentlemen are going to give me a certificate, for I have been told that you don't mean to, and that I am to be kept out."

"Why, Doctor, what do you mean?"

"I mean that I passed a New York college, with honorable mention, and this is confirmed by a certificate from the State of New York, and yet you people say I am not fit to practice. More yet, I have been told that I did not *manage* right; so I want to *know* if it is worth my while to try again in the same way."

"I can't tell you anything about it. You will have to take your chance, and now you will please excuse me."

The great healer, time, has robbed me of much of the sting I felt in 1902. With returned health, I can smile at the secretary who doubted the certificate of the State of New York, but wanted the lesser document. The blond man who "bet that he could fill the tooth." The doctor that said my "work would not last, and then displayed for admiration the plate with rubber attachments." The professor of anatomy, who reversed himself so sadly, yet was there in judgment. The one who said he examined the cavity and did not. For had he done so his license ought to have been revoked. And lastly the whole board, who did not see the real reason for my "work would not last, and then displayed for admiration the plate with

But there is a grave side to this. Some other man may have to breathe Colorado air, and be so situated as to have to practice or starve. Let him beware of a state where they turn down a man with good credentials, and let one of their own students in who calls his instruments "*tools*."

In the courts a man who feels outraged can appeal. What dentist has the time, or maybe the money, to take this action?

Let us have a National Board at Washington, composed of men beyond criticism, who would be a rod over State Boards, as these boards were instituted to check disreputable colleges. If this lead to this consummation, my visit to Colorado will, in the mysterious ways of Providence, be sanctified to *good*.

## **Crystalloid or Sponge Tin. Tin Cement.**

By DR. F. C. BRUSH, N. Y.

Dr. Arthur Scheuer, of Teplitz, Bohemia, President of the North Bohemia Society of Dentists, who came here to attend the Fourth International Dental Congress, brought with him several filling materials which he has produced after a series of investigations. Two of these, crystalloid or sponge tin and tin cement, are particularly interesting.

**Sponge Tin.** Crystalloid or sponge tin is a gray, felt-like substance obtained from tin salts by precipitation, and consists of chemically pure tin in metallic fibres, scales and light dust-like particles. Taken between the fingers it can be compressed with a slight pressure. If laid upon a flat, hard surface and condensed with the smooth handle of an instrument, the former spongy, flaky substance becomes a compact flat cake, the consistency of which may be increased by further compression, and the cohesion increases in proportion to the amount of pressure applied.

In conducting a number of experiments, it was found that in large crown cavities where all the walls were intact, such as might be found in the sulcus of a molar, the interior of the cavity may be shaped according to the condition of the tooth, paying no heed to undercutting or cupping, as no special retentive form was necessary. The sponge tin may be inserted into the cavity in large pieces, carelessly placed with the pliers and compressed with a broad Solila gold packer, employing strong hand pressure. The cavity may be rapidly filled to the margins. The surface, being well condensed, may be finished with a corrugated ball burnished, followed by a smooth burnisher. Under the burnisher it has the soft, velvety feel peculiar to foil tin, and the same bright, mirror-like surface appears. The final shaping may be done with a plug finisher or stones and the polished surface easily restored with a smooth burnisher.

**Sponge Tin  
and Gold.**

In the same class of cavities where it is desirable that the surface of the filling be of gold, the sponge tin may be used in combination with gold. The cavity may be filled nearly to the margin with sponge tin



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well condensed. Cover the surface of the sponge tin with Watts's crystal gold and press it firmly into the tin with Solila packers. The particles cling readily together and require but slight pressure, the density of the filling increasing, however, in proportion to the increase of pressure. Upon this adherant unannealed covering of gold pack annealed crystal gold and finish with cohesive cylinders.

A tooth which had been filled in this manner was broken apart and examined with a magnifying glass. It was found that the soft tin particles had adapted themselves to every inequality of the tooth substance. There was seemingly an interdigitation of the fibres of gold and tin forming a thoroughly strong union. Owing to the soft, spreading qualities of the sponge tin the cavity seemed to be better sealed than is usually the case with metal fillings.

In another case, a tooth with a large cup-shaped cavity, just enough of the sponge tin was inserted into the cavity to cover the walls and then burnished with a ball burnisher. The tin adhered closely to the cavity walls, readily adapting itself to all of the surface inequalities, and showing no tendency to draw away and ball up, a trick so common with gold. The filling was then completed as in the first case described.

The ease with which sponge tin may be manipulated is remarkable, as it may be used in large pieces and will compress to place quite as readily as amalgam. For the manipulating of sponge tin it has been found that De Trey's Solila gold instruments are the best; it is preferable, however, to use different packers for sponge tin and crystal gold, and to keep them separate for all subsequent operations.

Sponge tin seems well adapted for gingival cavities on the buccal side of molars that are difficult to shape and secure perfect walls. Its spreading qualities and adaptability to the inequalities of the walls makes it possible to secure a tight filling, with the advantage of a polished metal surface.

The sponge tin has not sufficient cohesive properties to make it serviceable for contour work, nor has it an edge strength sufficient to warrant its use in cavities where such qualities would be required.

Tin cement is a mixture of zinc oxide and tin forming a light gray powder, with here and there the shimmer of a fine particle of metallic tin. The tin is obtained by precipitation, and is so light and flaky that one gramme has three times the volume of a gramme of zinc oxide. It may be mixed with any good cement liquid; the use of Harvard liquid producing a normal slow hardening of the mass, while the Alphas or impervious liquids hasten the hardening. In mixing the best results are obtained by using the great-

### Use of Sponge Tin.

### Tin Cement.

est amount of powder that the liquid can be made to take up. The pledget may be removed from the slab and more powder worked in by kneading between the fingers; it will then have the consistency of very thick putty and still be very adhesive.

To manipulate the cement in the cavity the instruments should be coated with vaseline to prevent their becoming clogged with the cement. Though the vaseline becomes worked into the mass it does not seem to interfere with its hardening or the consistency afterward, and only seems to render it more impervious.

The mass when set is very hard and of a dull, steel color, but when ground and polished with a burnisher a bright metallic luster is produced.

This material may prove useful in those cavities where it is not possible to secure satisfactory undercuts for an amalgam and yet the filling must stand a deal of attrition.

The experiments so far conducted by me have been with models and for the purpose of observing the manipulative qualities of the materials. Dr. Scheuer informs me that the materials are being used considerably in Europe, and that the reports received show satisfactory results.

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## Wire Ligatures.

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By DR. W. MITCHELL, London, Eng.

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In a recent number of *ITEMS OF INTEREST* I noticed some remarks as to the use of the wire ligature in dental operations, other than for the ligation of fractures of the maxillæ. As I believe I am the first to



use and make known (see early numbers of the *Dental Review*) the value of wire ligatures in extracting cases, a brief description of my experiences might be of interest to you. Having experienced much difficulty at times in securing the rubber dam in connection with deep seated approximal bicuspid and molar cavities, I conceived the use of wire as an adjunct. I tried pure gold, platinum copper and iron wire. The first three I soon discarded, as they stretched too much, and would not bear the twisting necessary for their retention in the desired position. The iron wire perfectly annealed answered very well, except that it presented the same disadvantage as did the others, in that where there was much tension on the rubber, it had a tendency to roll over the wire, and thereby a treacherous condition always presented itself, which was difficult to contend



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with and very troublesome when it occurred during the progress of an operation. I then conceived the idea of a fine wire when doubled and twisted to the size of the wire usually used as possibly being the solution of the difficulty. This proved to be true, and I have found that wire prepared as per enclosed answers all requirements. The loop end enables the operator to handle it. My method of application is to adapt the rubber dam to adjacent teeth to the one or two to be operated upon, securing it thus for; when the rubber dam has been carried to place by means of silk or linen ligatures, the wire ligature is passed between the teeth at the interproximal space, and twisted up on the outside with conveniently pointed pliers and cut off three-sixteenths to one-fourth of an inch from the tooth. This end can be turned up toward the gum, when it becomes a good clamp or retractor for keeping the rubber out of the way. Where the cavity is very deep between the teeth a narrow chisel may be used to push the ligature down (or up) to conform to the curve of cavity margin, with the assurance that it will stay in its adapted position. A film of wax or sandarac varnish applied to the wire ligature before placing in position will insure its retaining the rubber perfectly.





# PROSTHODONTIA

## **"Fixed" Bridgework.\***

By HART J. GOSLEE, D.D.S.,  
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Fundamental Requirements for Success; Good Judgment, Skill. Preliminary Considerations: Devising and Planning the Procedure, Construction and Attachments, "Bite" and Impression, Models, Precautions Incident to Investing, Mounting on Articulator, Construction of "Dummies," Attachments or "Abutment Pieces;" Attachments to the Roots of Teeth: Shell or Telescope Crowns; Application, Construction. Dowel Crowns, Application, Construction. Incising Natural Crowns of "Sound Teeth.

In the construction and application of "fixed" bridgework, it has been previously stated that "the great law of variation" enters so prominently into each case presenting, and that the demands and requirements of the individual case are in turn so diversified, as to practically preclude the adoption of any general laws or specific rules. For this reason it is apparent that no special methods, nor modes of procedure may be classed as universally applicable.

Hence, since this particular field of effort as now practiced, is comparatively modern, we cannot be guided altogether by the advantages which might be derived from an extensive experience, but, on the contrary, must depend to a large extent upon close clinical observation combined with the intuitive or acquired genius of a practical mind and hand, so trained as to work in consonance, for the application of such principles and methods as will seem to be indicated, and as will also seem to offer the most favorable opportunity for achieving successful results in the case at hand.

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### Fundamental Requirements for Success.

Thus it will be observed that the successful application of any form of dental bridge, and particularly of a "fixed" type, is, first, altogether a matter of judgment, a faculty which may only be acquired or developed by observation and study, while success or failure in so far as pertains to the construction will depend largely upon the display of *skill*, or lack of it, in the execution of detail.

The possession of this faculty of good judgment  
**Good Judgment.** may be best acquired by first obtaining a knowledge of the correct principles, and then closely observing the successes and failures as they present from time to time, and by studying the cause and effect of each respective result, a duty which every conscientious operator essaying to do this class of work owes to his profession, to his patient, and to himself.

The acquirement of skill, however, does not  
**Skill.** usually obtain in a similar manner, and while it is true that *personal equation* enters prominently into the development of ability to grasp, comprehend and successfully execute the detail of all pursuits, and particularly of those which combine both art and mechanics, and also that we may learn by absorption, yet, nevertheless, it must always be remembered that while genius may be the product of *heritage*, and *individuality* the product of environment, *skill* is but the product of a *gradual development*.

To summarize, then, the success of this class of work in any of the various phases of its application will be co-extensive with, and indeed dependent upon, a conscientious observation of two fundamental, cardinal principles, *i. e.*, *judgment in application*, and *skill in execution*, and will, of course, increase in proportion as these faculties may be developed.

In questions of doubt, however, the conservative rather than the radical procedure should always be given precedence, as the best interests of the patient, and the reputation of the operator are at stake, and both should invariably be conserved.

### Preliminary Considerations.

As "fixed" bridgework is essentially an assemblage of "attachments," or "abutment pieces" and intervening or adjacent "dummies," the subject can doubtless be presented in the most practical and comprehensive manner by considering it from the respective viewpoint of, first, the application and construction of "attachments" or "abutment pieces;" second, the application and construction of the "dummies" which are to substitute the missing teeth, and third, the final "assemblage" of the various parts,



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The presentation of each of these phases of the subject, however, may be properly prefaced by the consideration of a few general requirements which should invariably be observed, and which will be found to be productive of the best and most certain results, and thus, in the long run, to expedite the procedure.

**Devising and Planning the Procedure.** The conditions of each case should be closely observed; the method of procedure which seems best indicated should be selected, and the bridge carefully planned before any of the actual work incident to its construction is attempted.

In this connection the observation of such requirements may be facilitated, particularly in extensive cases, by taking impressions and securing good models, the same to be used only as an aid to devising and planning the procedure.

**Construction of Attachments.** When the method of procedure has been decided upon, each and every "attachment," or "abutment piece," should first be made and completed in individual form, excepting, of course, that they need not be polished. This applies to any style of attachment with the exception of dowel crowns, in which instances only the cap and dowel should be thus completed.

**"Bite" and Impression.** The completed "attachments" or "abutment pieces" should then be accurately adjusted to position on the abutments, with wax or temporary stopping to sustain them in their proper relation, if necessary, and an accurate *occluding* "bite" in wax, and an impression in plaster then taken.

A *wax* "bite" is to be preferred to modeling composition or other materials, because of the ease with which it may be adjusted to the model without danger of breaking off the plaster teeth; and a *plaster* impression is *always* indicated because the employment of any material for this purpose which will *draw* perceptibly in removing from the mouth is not reliable, and hence the accurate replacement of the parts in such impressions is not insured.

**Models.** Good reliable models of plaster should then be procured, the wax "bite" adjusted, and the case mounted upon the articulator.

In this connection plaster models are always preferable to those made of any of the investment materials, for the reason that strength and accuracy of outline are essential, and that such qualities are not possessed in the greatest degree by models made of investment materials.



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### **Precautions Incident to Investing.**

Before filling the impression the method ultimately to be observed in investing the case for final soldering should be noted. If the "abutment pieces" are to remain *in situ* upon the model, after trimming it down and investing, and during the process of soldering, which is always advisable in extensive cases, it must be carefully observed that their interior is well filled with the plaster in pouring the model, in order to prevent air spaces which not infrequently result in fusing the parts during the process. If the "abutment pieces" are to be detached from the model, however, previous to investing, as is indicated in small cases, provision for facilitating the same should be observed by partially filling their interior with melted wax.

### **Mounting on Articulator.**

All cases involving any number of the posterior teeth should be mounted and constructed upon some form of "anatomical" articulator, or one which at least affords some lateral movement. This is essential for the reason that many failures in bridgework can be attributed directly to faulty occlusion, and the success of all such cases will depend largely upon the degree of accuracy in this particular.

### **Construction of "Dummies."**

Like the "attachment" or "abutment pieces," each of the intervening "dummies" should be *completed* in individual form previous to the final assemblage of all the parts. Whilst this may seem like an unnecessarily circuitous procedure its observance eliminates any possible danger of fracturing the porcelain facings during the process of the final soldering; or, of a change in the relation of the parts accruing from the shrinkage of so large a quantity of solder carried to the state of fusion at one time, and greatly diminishes the work incident to the final assemblage.

### **"Attachments" or "Abutment Pieces."**

In the development of "fixed" bridgework innumerable methods of securing attachment to the remaining natural teeth have been devised, but as many of them have proven impracticable, only those of acknowledged usefulness and practicability at the present time will be presented.

These may be considered in two general classes: first, those wherein the attachment is made to the roots of the remaining natural teeth, and second, those wherein the natural crown of the tooth is conserved and the attachment made to it.

### **Attachments to the Roots of Teeth.**

Irrespective of the desirability of conserving the natural crowns of those teeth which are to support the bridge wherever possible, and particularly in the anterior part of the mouth, the application of artificial crowns well adapted to the roots of teeth must be regarded as the best.

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most universally applicable and permanent means of attachment for "fixed" bridges.

## Shell or Telescope Crowns.

Of all the methods employed the shell or telescope crown doubtless encompasses a greater sphere of usefulness and affords a greater range of application than any other one style of attachment.

**Application.** For cosmetic reasons, the application of this style of crown must necessarily be confined exclusively to the posterior teeth. In the upper arch such crowns should seldom if ever be used anterior to the second bicuspid, but in the lower arch where the teeth are usually less conspicuous they may occasionally be used as far forward as the first bicuspid. The flagrantly inartistic practice of employing such crowns on the cuspids or incisors, however, is unnecessary and unwarrantable, in any case.

**Construction.** When it has been decided that such crowns are indicated for attachments, the root or roots should be prepared, and the crowns constructed in accordance with the prescribed procedures as previously outlined.

As a general rule they should be completed in individual form first, as mentioned, and this is imperative in bridges involving more than three teeth, and particularly when two or more crowns of this style are employed in the same fixture, for the reason that the bands must otherwise be detached from and replaced upon the model so often as to possibly thereby endanger the accuracy of the final result.

## Dowel Crowns.

Manifestly the next most important and generally useful method of attachment may be obtained from the employment of dowel crowns, and under this classification is included all of the various styles wherein a dowel is used, which have been previously mentioned.

When used as an attachment for bridgework, however, a narrow band encompassing the end of the root should invariably be employed in preference to a simple plate adapted only to the basal surface, as the protection thus afforded will, doubtless, add to the preservation of the root, and the stability of the attachment. It must not be forgotten, however, that the success of a band depends entirely upon the degree of thoroughness observed in preparing the periphery of the root, and in adapting the band to it, in order to preserve a continuity of its surface, and thus avoid the possibility of irritation.

**Application.** The application of this style of crown is always indicated on the six anterior teeth, and for cosmetic reasons should invariably be employed on the first,



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and frequently on the second bicuspid, wherever the natural crown has been wholly or perhaps even partially destroyed by caries, and where it may not seem warrantable or expedient to make an effort to conserve it, or its remaining portions.

Where dowel crowns of any style are to be employed as attachments, they should be made in accordance with the previously mentioned requirements of root preparation, adaptation and construction.

The caps including dowels should be completed first, however, and the "bite" and impression then taken, and models procured. This admits of the proper selection and adjustment of the facings in their relation to the caps and to each other, after which the caps with their respective facings should be detached and soldered separately, previous to the final assemblage of the entire piece. For the reasons already mentioned, this procedure should be observed in all cases involving two or more crowns, and provision for their detachment from the model should be observed before filling the impression.

### Incising Natural Crowns of Sound Teeth.

The question of sacrificing the natural crowns of sound teeth, particularly in the anterior part of the mouth, for the purpose of substituting artificial ones as supports for bridgework is undoubtedly highly important, and demands the most conscientious thought and deliberation on the part of the operator, for the reason that it is not within the province of our art to perfectly restore the natural condition.

It is quite generally conceded, however, that such a procedure becomes warrantable in proportion, first, to the disfigurement caused by the missing teeth, second to the normal or abnormal position of such natural crowns in their relation to the adjacent teeth; third, to the absence of practical indications for other or better means of supplying the missing ones than by bridgework; fourth, to the inconvenience to the patient of wearing a partial denture, their natural abhorrence of the same, or the possible injury to the natural teeth that might result from abrasion, in their use; and fifth, to the ability of the operator to restore them in a practical, artistic and reasonably permanent manner.

While the age, and possibly the sex, of the patient has a material bearing upon the practicability of such a course, in any event, still we may often be justified in adopting such a procedure in at least two general classes of cases.

First, in those cases where an extensive bridge may seem indicated, and where a reasonably permanent style of crown is to be employed upon the other abutment roots. If all other abutment roots are to be treated

in a manner which will seem to offer greater opportunities than would likely be secured by any style or method of attachment other than a crown, one should not hesitate to sacrifice the natural crown of a tooth which is needed for support, and substitute an artificial one, as a means of affording greater strength to the entire piece and more artistic and permanent results, and particularly where the cutting off of one or two crowns of sound teeth makes possible the secure fixation of substitutes for several missing ones.

Second, in many of those not uncommon cases where conspicuous teeth have been lost through accident or from other causes, in an otherwise perhaps good and uninterrupted arch. By sacrificing the natural crowns of the tooth or teeth adjacent to the space, as the requirements may indicate, the missing ones may often be supplied in a "fixed" manner by attachment to the artificial substitute, with results more comfortable and serviceable, and less objectionable, inconvenient and embarrassing to the patient; and with artistic and permanent possibilities in proportion to the skill evidenced in the adaptation and construction of the work.

(To be continued.)

### The Davis Townsend Bridge.

By OTTO ERNST, D.D.S., Larchmont Manor, N. Y.

The Davis Townsend bridge is a molar-bicuspid bridge, a combination of generally used abutments, roots or gold crowns and one or more gold cups with tight fitting, cemented porcelain teeth, both cups and porcelain crowns ready for assembling to suit the case, which, when completed, forms a neat and clean bridge, showing no gold on the grinding surface, repaired without moving the bridge from the mouth, by simply cementing a new porcelain into position.

**Advantages.** In soldering you are not handicapped by the porcelain, which is liable to fracture or discolor during this process and is nearly always weakened.

In slightly converging conditions, especially found in inferior teeth and impossible to overcome by grinding, you have a chance to spring a bridge into place and then attach your porcelain.

In case of a fracture of the porcelain, you having the number of shade and mould on record, a new one can be obtained and replaced without any delay by clearing the cups of the old fragments and cementing the new one into place. It is more æsthetic by showing hardly any gold on the grinding surface or buccal aspect, and only a small line along the

## ITEMS OF INTEREST

gum, being superior in that respect to the gold cusp bridges, which show all the gold and seldom any porcelain.

There are no spaces nor crevices where food can lodge, and cause decay and bad odor.

The Davis Townsend crowns are not weak and frail facings, but strong and solid porcelain crowns, well able to stand the stress of mastication and imitate nature as much as can be done in bridge work. The system is so simple and easy that it ought to appeal especially to those of the profession who prefer to make their own bridges at the least possible expense of time.

*Figure E* is one of the gold cups with the Davis patent shoulder pin soldered in the center, ready to receive the crown.

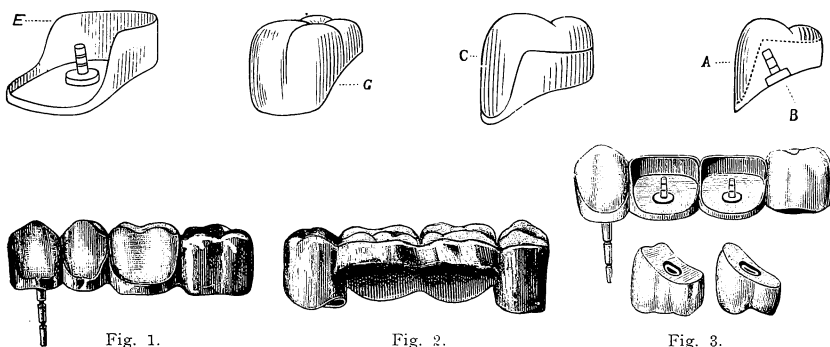


Fig. 1.

Fig. 2.

Fig. 3.

*Figure G* is a molar porcelain crown ready to be attached to the cup.

*Figure C.* Molar cup with crown attached.

*Figure A.* Molar cup with crown adjusted, showing location of pin in crown.

*Figure 1.* Front view of a completed bridge.

*Figure 2.* Rear view of a completed bridge.

*Figure 3.* Bridge with crowns removed, showing its construction more clearly.

### **Method of Construction.**

The modus operandi of the system is as follows, giving you in a few words the underlying principles. Having finished and accurately fitted my abutments, I take an impression and bite with same in position, as in any other case, remove abutments, replace in impression, pour cast and place on the articulator with the bite. At the depot I first select the gold cups to suit the case, then the porcelain crowns to fit the gold cups. At the laboratory, fit and grind as the case requires, treating cups and

porcelain crown as one unit, according to the case, generally allowing it to tilt inward to a slight extent so as to send the principal force of mastication in the direction of the shoulder pin. After that I take each individual cup and tooth from the cast and burnish the cup well around the porcelain crown; replacing them into the wax backing, I make sure to obtain the previous exact position. Then increase the wax backing to have it strong,\* carefully remove the porcelain crowns and then wax and flux the spaces between the individual cups or between cups and crowns, as you want it to be after soldering. The case is then ready for investment, after which heat the case to drive off the wax, apply flux and solder to suit the case; heat up well, flow solder over bottom of cups to stiffen the case and to secure the shoulder pins. The case is then ready to be polished, ground, etc.

The laboratory attachment of facings is preferably done with sulphur, slightly warming tooth and bridge and heating sulphur in spoon spatula and apply, as it affords a strong union. In the mouth, of course, cement is the only available material to use.

In using a canine root for an abutment, use a Richmond crown on the same; for a bicuspid root, fit a regular Davis crown shoulder pin, make a collar, apron shape, so as to conform it to the back of the cups and solder in position, also securing the porcelain crown pin, then grind the root pin to position and fasten with a low grade solder.

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## The Davis Crown in Root Preservation.

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By A. E. WRIXON, D.D.S.

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The case herein treated, after a severe test, seems to demonstrate one of the possibilities in root preservation under adverse circumstances with the Davis crown.

The patient presented herself to me with a loose cuspid crown, and after removing it I found the decay had penetrated up almost one-third the length of the root on the disto-labial surface; the gums were congested and covered the gingival edges of the root.

After treating the root place a piece of gutta-percha into the enlarged canal and force back the gums with it, allowing it to dry; paint with colodion to assist in holding it in until the gums are in their normal position, which will take several days.

Upon the return of my patient in ten days I found the gums were forced away sufficiently for me to build down the root; but had I done

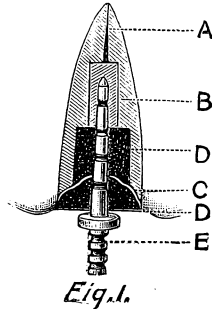
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\*It is a helpful precaution to imbed a piece of match stick in the joining wax.—EDITOR.

## ITEMS OF INTEREST

so in the ordinary manner with amalgam I would have found when I came to drill a hole in the amalgam for the pin of the crown that it would dislodge and not hold. To avoid this it must be built down firmly with a pin intact, and this could only be done with a Davis crown and pin.

With a cross cut fissure bur ream out the canal; roughen the lower third of the pin with a sharp chisel to assist in retention; place the pin in root with cement, allowing the cement to extend down one-third of the length of the root (see illustration, and hold pin in position in the crown until the cement is hard; trim out excess of cement with a cross-cut inverted-cone bur and build down with amalgam, trimming the cervical edges with a very thin spatula; at the same time hold the crown in position on the



*Fig. 1.*  
A—Root. B—Cement. C—Margin of Root Showing Depredation Below Gum Line. D—Amalgam Showing Extent of Restoration. E—Davis Crown Pin.

pin, so as to obtain a perfect fit of the crown to the amalgam; when the amalgam has hardened set crown with cement as usual, when not using a band.

After several months' usage I still find the crown intact and doing good service, the patient having suffered no inconvenience whatever with it.

Ordinarily the extraction of this root would be deemed inevitable. This case somewhat demonstrates the possibilities of preserving a badly decayed root and using it to good advantage with a Davis crown.

### Porcelain Crowns—A Few Details.

By DR. F. C. BRUSH, New York, N. Y.

The porcelain crown in some one of its forms has been in use for many years; its stages of improvement have been quite marked; until now,



## PROSTHODONTIA

in its present form its practical and esthetic value is unquestionable. Its range of application has been ever widening rendering it difficult to describe all of the cases or methods whereby it may be utilized. In each stage of its development the porcelain crown has had about it some feature which has proven a decided disadvantage and made improvement not only desirable but necessary.

The Richmond method has so many objectionable features and is so unnecessary, for an individual crown that it need rarely be used. The one thing which recommended its use has proven to be its worst feature in nearly every case—that is, the band. The reason generally given for using a banded crown is that it prevents the root from splitting and affords a stronger attachment. In an experience covering many years, with a wide opportunity for observing crown work, I do not recall having seen over half a dozen split roots under crowns without bands, and in every such case the cause could be traced to faulty manipulation and undue occlusal stress. The principal objections to the full-banded crown are usually glaringly apparent, for it is invariably found that the gum has or will draw away from the band, leaving it fully exposed and forming the malodorous pocket, which keeps the surrounding tissues in anything but a healthy condition. Have you ever seen a Richmond crown, that had been in the mouth for some time, that you would unhesitatingly say was par excellence from an esthetic, hygienic and mechanical standpoint? I have not, and my observation covers the work of operators all over the country. Are we considerate enough of the feelings of the patient that undergoes the nervous strain and laceration of the tissues so commonly incidental to the making and fitting of this detestable band?

The Darby method was an effort in the right direction but is so rarely used it need not be considered.

The Logan crown, while being an improvement over the others still has many objectionable features. Owing to the fixed pin the difficulty of obtaining a satisfactory adaptation to the root, in many cases, is quite a disadvantage. The platinum pin shows a tendency to stretch under stress allowing the crown to bend away from the root, which not only alters its position in the arch, but forms a pocket between the crown and root. Several cases have presented where the crowns (incisors) were bent almost at a right angle with the long axis of the root, and yet a portion of the pin remained firmly imbedded in the root.

The all porcelain crown as baked by the individual operator, is open to the same objections as the other crowns according to the method used. In no case that I have observed do I consider that the result obtained warranted the time and trouble spent upon it.

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### **Advantages of the Davis Crown.**

The all porcelain crown with a detachable pin seems to fill the requirements with fewer objectionable features than any other crowning method at the present time. Of the several such crowns that are on the market, the Davis seems the most desirable from its ready adaptability and practical construction. In the Davis crown the construction of the pin, with its flat shoulder, is an important feature and appears to give greater strength and stability to the crown when set than would a pin with a slot or dovetail.

My experience with Davis crowns dates from their first general appearance on the market, and the results have been uniformly satisfactory. The few mishaps that have occurred have caused me to observe more closely the details of adaptation rather than to discourage their use.

When a crown is deemed advisable a close observation of all the conditions about that particular root should be made that no detail will be overlooked and nothing left undone that would have a bearing on the future success of the crown.

In a case where there has been a considerable loss of tooth structure approximately, allowing the teeth to tip together sufficiently to pinch the gum in the interdental space, it is best to separate freely until the original space is secured and the root occupying its normal position, before excising the crown of the tooth. This will generally prevent any undue pinching of tissue and interference with circulation which might produce a neuralgia hard to locate or relieve afterwards. This separating may be readily accomplished by the silk method described by Dr. Bogue in the *International Dental Journal* for May, 1902. It is an invaluable idea and enables one to entirely do away with the barbarous separating rubber in all cases.

The excising of the crown may be accomplished with practically no discomfort to the patient by using a pointed cone, cross cut, enamel fissure bur, gauge No. 1, to cut through the tooth at right angles to its long axis, following the gum festoon, but avoiding, if possible, any laceration of the gum with the bur. The bur may be better guided if the cutting is done toward, rather than away from the operator. The stump of the root may be shaped as desired, but all enamel which is left encircling the root after shaping should be carefully removed as well as all particles of serumal calculus, usually secreted in the approximal spaces, that the root may be left smooth and clean.

The relation which the porcelain crown is to bear to the adjoining teeth should be carefully observed that the normal knuckling may be restored and an equable pressure be maintained, that the arch may be properly sustained and a general displacement of the teeth prevented.

## PROSTHODONTIA

From a mechanical standpoint the occlusion is probably the most important detail, and failure to appreciate this has been the cause of innumerable mishaps in all branches of crown work.

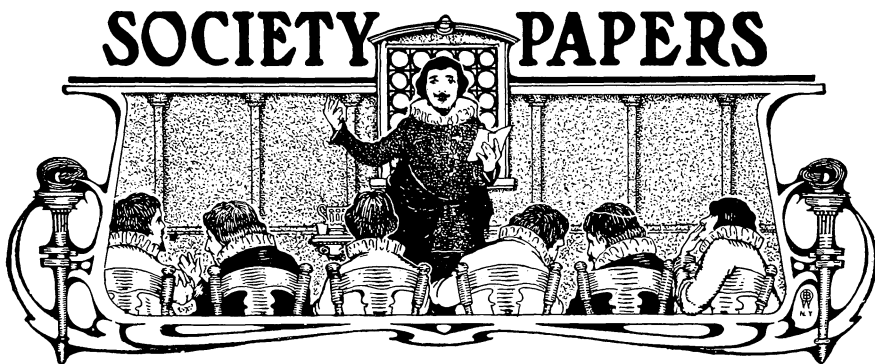
The lingual surface of the crown should be so carved that in no occlusal position can undue stress be brought upon it. It is better to have a very slight space between the crown and its antagonizing teeth rather than to have them touch. When shaping the lingual surface of the crown avoid if possible the forming of a pronounced inclined plane for the antagonizing teeth to strike against, thus lessening the liability of fracture, irritation or a loosened root.

In carving the labial surface of the crown it is not seriously objectionable for the edge of the porcelain crown to extend slightly beyond and above the edge of the root provided the adaptation to the gum and the esthetic effect is improved thereby. It is true that this will apparently form a pocket, but it is also true that healthy gum tissues takes kindly to porcelain and will hug up closely to it and thus prevent the ingress of foreign particles. A tooth brush properly used should keep such places clean and healthy. I have under observation cases of this kind of several years standing that show satisfactory results.

When setting the crown great care should be used in filling the root canal with the cement that no air bubble be confined and compressed at the apex of the canal. This occurs more often than is supposed and is one cause of loosened crowns and abscessed roots. The gelatine tubes (jiffy) are of assistance in overcoming this difficulty.

These points may be merely an old story retold yet we cannot have it impressed on us too often, and while detail alone does not mean success, there cannot be success without detail.





## Septic Blood in *Pyorrhoea Alveolaris*.

With a Demonstration of Tuberculous Blood Taken from the Living Patient and Photographed Immediately; Thrown on the Screen and Illustrated by the Stereopticon.

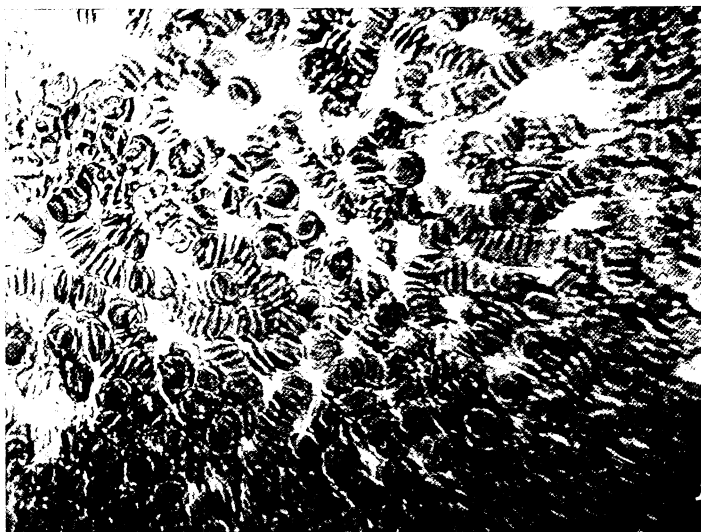
By ROBERT L. WATKINS, M.D., New York.

*Read before Central Dental Association, April, 1904.*

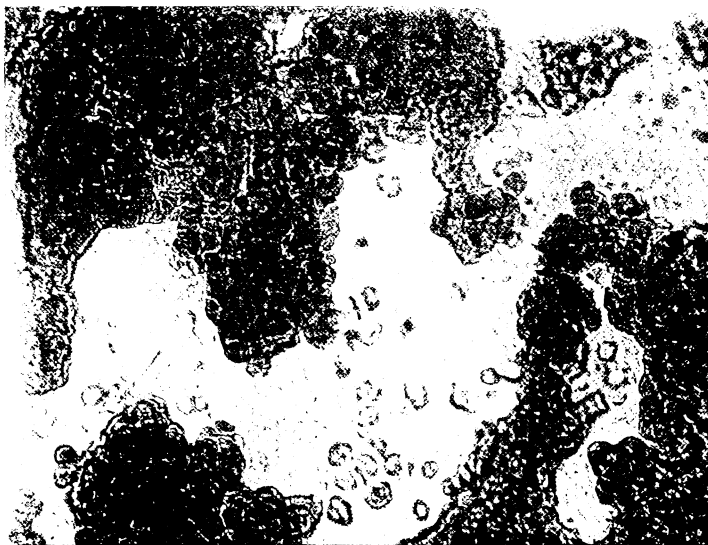
In my remarks I shall not attempt anything new on this subject or anything that is revolutionary; I shall deal simply with a few points that I have noticed in my studies of the blood. As I understand it, *pyorrhoea alveolaris* is always accompanied by pus, from its inception. The question is with many, what causes the primary inflammation? It may be due to germs or it may be due to some irritating cause with which I and perhaps you are unfamiliar. But I have observed that in advanced stages of this disease, there is the same appearance in the blood, but to a less degree, as that which I have observed in puerperal fever, and advanced carcinoma—a septic blood condition. This also occurs in forms of tuberculosis where there is pus formation, chronic meningitis, the so-called scrofula, pyaemia, epithelioma, severe phlegmon, gangrene, septic osteomyelitis, septic polyarthritides, ulcerative endocarditis, phlegmonous erysipelas, advanced cases of phthisis, alcoholism, or any condition in which pus can be taken into the circulation.

The first picture which I shall show you upon the screen will be that of healthy blood, and then, a few pictures will be shown of the blood as it occurs in advanced stages of one or two of the diseases mentioned, so that they can be compared with the blood of health.

In septic conditions, the blood is in a watery condition. This term may seem ambiguous, but it is very expressive; that is to say, there is an



Healthy Blood; 1/12 Objective.



Typical Septic Blood.

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increase or excess of the watery elements of the serum of the blood; the corpuscles seem to be flabby and float around in this excess of fluid, like so many empty tugboats on a windy day in the harbor.

This is the appearance that these corpuscles present to the eye. Besides, on first drawing the blood, when squeezed from the wrist or ear, for you must always get the arterial blood in these cases—it has a dark appearance and also is characteristically thin and watery.

In this watery blood, there will be found more or less of what may be called debris, and this consists of micrococci (immobile-like particles) and



Consumptive Blood; Drawn, Diagnosticated, Photographed, Shown on Screen and Demonstrated in 20 Minutes. Case Furnished by Board of Health.

broken down fibrin filaments. These filaments are broken in places in a similar way as the filaments are in chronic alcoholism, or in some cases of pacha meningitis. It is also distinctly seen to one experienced that the blood cells contain less haemoglobin, and in fact if a bunch of red cells are seen together, it will be observed that some of the cells contain more coloring matter than the others. This could be very nicely illustrated in colored photographs. If such should ever be seen by any of you gentlemen, I would like you to understand that it will not be the fault of the artist if this degree of coloring above described is given, for it is pathologically present. I mention this because in several articles my photographs have

received some unfavorable criticism, when in reality they were not understood by the critics.

The medical profession in the past have been impressed with the fact that the number of red corpuscles was about the only pathological condition present in the blood in any form of inflammation or disease, and that the absolute number of cells present was the main factor of diagnostic importance.

However, in connection with these other pathological conditions pointed out, there is in pyorrhea alveolaris an increase in the white cells—or more properly perhaps, it might better be said that there is a decrease in the red cells, for in a field that I shall present, there are generally from two to three leucocytes of the amoeboid variety, and they are characteristically seen to float lazily about in this excess of serum, but there is no definite increase in number. They will sometimes be seen filled with germs of various kinds; sometimes only those of the crypta syphilitica are present; at other times none are present. The aggregate in the photo will show the increase as well, if not better, than to spend an hour to count them.

## Treatment of Pyorrhea Alveolaris.

By GORDON WHITE, D.D.S., Nashville, Tenn.

(Read before the New Jersey State Dental Association, Asbury Park, July, 1904.)

It is rather embarrassing to appear before you when perhaps I have little that is new to offer. I have been asked to give my treatment for pyorrhea alveolaris. No disease, as you know, has been inflicted with a greater number of names, even as no affection of the mouth is a greater affliction, but I see no good reason for adopting a new name, or of discussing the etiology and pathology of the disease in this short paper. It is as the French would say the "*bete noir*" of our practice, still it can be practically cured and the affected teeth be made to do their work through the average life; however, I know of no greater risk than to make promises to the habitual toddy drinker or excessive tobacco user.

My observation is that most gum troubles, if neglected, lead to pyorrhea, and any constitutional lesion more or less affects the teeth.

At the first sitting, even before an examination, the mouth is mopped or sprayed with dioxogen or pyrozone for cleansing. A general and thorough examination with a smooth instrument is then made

**Author's Treatment  
of Pyorrhea.**



## ITEMS OF INTEREST

of all the teeth so affected, and treatment begun upon the most important or those most involved.

I apply locally and inject into the pockets any one of the reliable local anaesthetics, with the effects of which I am familiar, usually a 2 per cent solution of cocaine—never a stronger solution—and, after a few minutes with delicate rigid instruments the deposits are removed.

The success of this most delicate bit of surgery in the entire field of surgery, is almost wholly dependent upon acuteness of touch, for the thin layer of what is commonly called serumal deposit can rarely be seen and yet can be scraped to an infinitesimal thinness without being removed; hence the importance of the sense of touch being educated to detect this thinned layer, which will assuredly prevent the cure if allowed to remain. I am more indebted, for whatever success I have had, to the acuteness of the sense of touch than to any other factor of the treatment, the opinion of others to the contrary notwithstanding.

Do what you may in the treatment, surgically or medicinally, so surely as any of this deposit remains, just so surely will the treatment fail.

### **Fixation of Loose Teeth.**

During the surgery or removal of deposits, the patient is permitted at intervals to rinse the mouth thoroughly with an antiseptic wash. Of course, teeth which are loose must in the way deemed best, be fixed in their positions and bad occlusions corrected. There are several ways of fixing these teeth, either with silk thread, united bands, united crowns, or a spring splint. The latter which has given great satisfaction, is constructed by swaging a piece of gold plate to the lingual and buccal or palatal and labial surfaces, according to location, and then uniting these plates with platinum and iridium spring wire, which, when snapped over both sides of the teeth, is a most excellent method of securing them, and can be easily removed for cleaning. The wire is of course passed from one plate to the other between the cutting edge space of the mesial and distal surfaces.

Where there are missing teeth, the remaining loose teeth can be made most serviceable by bridges. It is really astonishing how useful a few isolated loose teeth can be made. All roots of the molar teeth, free from any attachment to their sockets, should be amputated, for the remaining roots properly treated can be made serviceable for years in the support of crowns and bridges. The bands of these crowns should never be allowed to extend under the gums, for a constant irritation will cause the return of the trouble.

### **Removal of Pulp.**

I do not hesitate to remove the pulp from any of the teeth greatly affected and in all cases where there is enough bone remaining to justify an effort



to save the tooth. I have rarely known a case that was not benefited by the removal of the pulp and the usefulness of the tooth prolonged. Just why this is, I know of no one who knows positively. Most probably it is due to a change in the blood supply to the locality.

After a thorough removal of all deposits, the  
**Local Medication.** pockets are washed out with dioxogen or pyrozone, then warm water. This is followed by injecting a drop or two of pure lactic acid to which has been added four drops of formalin to the ounce. As the acid is somewhat painful, being rather escharotic to the soft parts, the shallow pockets are usually swabbed out with a little cotton wrapped on the point of a broken Donaldson broach, thus keeping so much of the acid from contact with the mucous membrane. Before applying the acid, however, the lips, indeed a considerable area about the mouth, are smeared with a little oleostearate of zinc to prevent the acid from burning, for should the lips be burned by contact with the acid, it is almost sure to cause what the patient calls a "fever blister" or "cold sore." When the syringe is used, rolls of bibulous paper should be so placed about the pockets as to absorb the surplus acid. To counteract the effect of the acid on the mucous surface, nothing is more effective than to rinse the mouth with the milk of magnesia. The necessary suffering is sufficient to make it desirable to prevent all that is preventable.

Lactic acid was suggested to the profession a number of years ago by that great man in this disease, Dr. W. J. Younger, and up to the present, I have found nothing as a universal remedy to equal it. When the roots are sensitive, however, I have for many years applied lactate of silver with most gratifying results. It has much the effect of nitrate of silver, without apparently so much or so dark a deposit.

The very loose teeth should be disarticulated, and placed in a state of rest during the treatment. After the surgical treatment, the pockets are not disturbed for a week or ten days, but the officinal tincture of iodine is applied to the gums about every other day and the patient directed to use some antiseptic mouth wash half a dozen times a day. Should the pockets show no sign of healing, it is perfectly certain that there is something remaining that should be removed, either a scale of deposit or some foreign substance which has lodged and acts as an irritant; so the surgery is repeated from time to time until the healing occurs.

It is my practice to keep up with each case until the recovery is manifest, for in no other way can the wound be kept free from irritating agents such as particles of food, etc.

I regard it quite as necessary that the dentist should look after his case of pyorrhea after the surgery in the treatment, as it is for the general surgeon to see his cases after operation. As his cases need dressing just



## ITEMS OF INTEREST

so do our cases of pyorrhea require attention. Absolute cleanliness is necessary. I instruct my patients to thoroughly wash their teeth not less than five times a day; on rising in the morning; after each meal; just before retiring. Massaging with the fingers is always of the greatest benefit.

### **Constitutional Treatment.**

As to constitutional treatment, much more depends upon the manner of living than upon the administration of drugs. To quote our beloved Dr. C. N. Pierce, "When I have gotten my patients to drinking water, I think I have accomplished much towards the cure of this dreaded gum disease," so one of my most urgent injunctions is to flush the sewers, take an internal bath.

The customary diet of white breads, sweets, red meats, etc., should be changed for one of coarse breads made of pure graham flour and country corn meal, fruits and vegetables; and the habit of deep breathing and exercise in the out-door air acquired.

We know that even the monkey (our ancestor?) after he becomes domesticated develops in a short while pyorrhea in its severest form. This has also been noticed in other animals when confined.

Occasionally some one of the alkaline agents is prescribed with more or less favorable results, especially in cases where there are no deposits, and pronounced uric acid conditions.

Last but not least, I show the patients how to clean the teeth and urge them to keep a clean mouth.

In the clinic, gentlemen, I hope to demonstrate the results of this plan of treatment, which for twenty years has given me a great measure of success.

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## **Why Does Dental Caries Occur More Frequently in the Female than in the Male Mouth of the Human Family?**

By W. G. EBERSOLE, M.D., D.D.S., Cleveland, Ohio.

*(Read before the Cleveland Dental Society.)*

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Our title is, as you see, an interrogatory one. We may say that it is both positive and interrogatory; positive because it states that certain phenomena exist; interrogatory because it calls for an explanation of this phenomena.

In view of the fact that a most careful examination of the literature at our command fails to reveal anything that tends to support the statement, it becomes necessary first to show that dental caries does occur more frequently with woman than man, and then later take up the study of the phenomena which produces this condition.

A somewhat extended inquiry among our colleagues in the profession revealed the fact that there existed an impression that there is a decided difference between the two sexes in this matter, but none knew of any data that had been gathered to prove it, nor of any literature bearing upon the subject, except two articles upon the seeming influence of pregnancy, together with a few brief statements made by different writers in this connection.

The articles referred to are: First, one in the *Dental Cosmos* of April, 1895, by Reuben Paterson, M.D., of Grand Rapids, Mich., entitled, "The Influence of Pregnancy Upon Dental Caries." The second is by Dr. I. C. Edington, of Rochester, New York, in *Cosmos* of August, 1901, entitled, "Secretions of the Mouth During Pregnancy." Both the articles are of merit, and should be read by those interested in this question. Neither, however, has any direct bearing upon the side of the subject which we are discussing. The mere conjecture of our colleagues, together with the lack of any definite literature upon the subject, leaves to us the duty of presenting definite proof of the fact implied in our title.

Our attention was first called to this side of the question a number of years ago, when employed almost exclusively in the removal of the dental tormentors of suffering humanity. We were particularly impressed by the large number of women as compared with the number of men requiring our services.

Later, when we became more closely associated with the preservative and restorative side of our professional calling, we again noted the very marked difference.

Through the kindness of a number of our elder brothers in the profession, we are by their records able to show just the percentage of work done for the two sexes in a period extending over quite a number of years. The first record submitted was from a practice almost exclusively operative, and shows that 39 per cent was for men and 61 per cent for women, a difference of 22 per cent. The next is a record of a general practice, and shows five men to every eight women, or 38½ per cent of men and 61½ per cent of women, a difference of 23 per cent.

Then we have a record of 1,514 patients, covering a period of five years in one of the oldest general practices in the city, which shows that

## ITEMS OF INTEREST

591 of the patients were men and 937 women, or practically 39 per cent and 61 per cent, again showing a difference of 22 per cent.

The next is exclusively a prosthetic practice, embracing some 904 patients. We find that 710 are women and 194 men, or about  $78\frac{1}{2}$  per cent women and  $21\frac{1}{2}$  per cent men—a difference of 57 per cent. But the actual work completed, based upon the charges, shows that but 61 per cent of the work done was for women and 36 per cent for men—a difference of only 28 per cent, or a gain for men of about 50 per cent of the difference in cost of work completed, as against the number having work done.

This difference may be explained by two facts: First, where caries exists in man he is less careful about having his teeth cared for, and if troubled, resorts to extraction rather than submit to filling. Second, when he is having work done, he wants the very best that his income will permit him to obtain, while the woman saves all teeth possible, and when compelled to consult our prosthetic brother, she has just as little to be done in his line as possible; and, inasmuch as "John" is to pay the bill, she wants it done just as cheaply as consistent with good, serviceable work.

In our own practice, exclusive of the surgical side, considering simply the operative part of it, for four years and a half we find the percentage runs 63 women to 37 men—a difference of 26 per cent.

The investigation of the records of some 31,863 extractions made prior to and during our practice in this city, reveals the fact that about 77 per cent were for women and 23 per cent for men—a difference of 54 per cent. The examination of our records made since locating in the city shows the ratio to be about seven teeth for women to three for men, or a difference of 40 per cent. Thus we find that when all branches of the dental art are considered, woman demands from 22 per cent to 57 per cent more of our work than man; or to be more explicit, taking the general average, we find woman demands about  $33\frac{1}{3}$  per cent more attention at our hands than does man.

Having established the above fact, we turn to the second or the interrogatory part of the subject; the part that concerns us the most—the why?

A close study of the phenomena pertaining to or bearing upon this phase of the subject directly or indirectly, makes us fully cognizant of the impossibility of attempting an intelligent explanation of them all in a paper occupying the time limit of the society.

Desiring to confine ourselves as nearly as possible within the time limit, and also not wishing to tire those of you who are less interested than the writer, we have determined to devote the remainder of this paper to setting forth some of the causes without attempting to enter into a full explanation of the physiological or pathological activities that enable

them to produce certain results, closing with a brief statement of some of the theories which our study of the physiological and pathological phenomena has produced within us, reserving a fuller discussion for the future.

It is our intention to devote the greater part of this paper to the discussion of the influences exerted by the female organs of generation. First, because

our investigation along this line has led us to believe it is the most important cause of the existing conditions; and second, because less thought seems to have been given to this side of the question.

But in turning our attention in this direction we must not lose sight of the fact that there are numerous things which may and do wield considerable influence in bringing about existing conditions, which should be kept before us in our endeavor to explain other phenomena.

There seems to be no doubt that our present mode of living is so radically different from that intended or desired by nature that she is unable to successfully perform all her normal functions. *If this be true, and we believe it is, then man, from being a purely physiological, has become, to a greater or less extent, a pathological being.*

While this applies to either sex, it is most marked in the female, sometimes called the weaker sex.

Man, through the responsibilities and obligations placed upon him, is more in the open air and receives or obtains a greater amount of physical exercise, which, from a physiological standpoint tends to prevent pathological conditions.

Man again is given to the use of tobacco, which is claimed by some to prevent caries of the teeth to a greater or less extent. How great an influence it may exert we are not ready to say.

We are prepared, however, to say from personal observation and investigation that it is a rare thing to see a healthy mouth where tobacco has been used immoderately for a short period, or moderately for a long period of time. This statement is only made after devoting considerable time to investigating the question, and after having examined many mouths of tobacco users that were not presented for professional treatment.

We have seen a number of mouths which were free, or comparatively free, from dental caries, but we have found a healthy mouth only in two or three instances, and then only where the weed had been used in moderation for but a few years, and where the man's calling was such that he was compelled to use every precaution to remove all taints and influence, that his patrons might not be discomforted or offended by the obnoxious odor.



## ITEMS OF INTEREST

The smoking or chewing of tobacco does in time produce pathological conditions of the oral cavity, but we must admit that during its early and moderate use it does also seem to prevent caries.

**Woman's Disadvantages.** On the other hand, woman's environments are such, among the civilized nations, that she, as a rule, is but little in the open air, and the physical exercise so meager or taken under such circumstances that it avails her but little.

Then again, woman is given to indulging in sweets, candies, pastries, etc., at all hours and at most inopportune times, which, aside from any direct influence they may have upon the teeth, tends to produce digestive disturbances, which in turn alter the condition of the various secretions, thus wielding a very decided influence indirectly upon the teeth.

Aside from this, woman is physically weaker and more susceptible to outside influences. This is so greatly increased by the manner of dress that it has now become a rare thing to find a woman sound physically.

In speaking of dress in this connection, we refer more directly to the use of the corset, which in the past and to a less degree today has been, and is being used, through the so-called pride of woman, to give her a nice form at the expense of the perfect development of the pelvic organs. So much has this evil been practiced that it is a wonder to us that many of the organs attempt to perform their normal functions; particularly is this the case when we consider the efforts made by most women to hide as long as possible the fact that they are about to become mothers.

The fad of lacing has been practised so long and so persistently that we not only have the distortion and displacement produced by the actual application of the corset, but its influences have been handed down from generation to generation, until at present most of our girls have more or less faulty pelvic organs and a misshapen pelvis.

The natural weakness or susceptibility of woman, together with that caused by folly, fad and pride, make her also the most frequent consultant of the physician. This, too, may, and often does, lead to the consultation of the dentist, not at the suggestion of the physician, but due rather to his inconsiderate use of remedies that are injurious to the teeth.

We are sorry to say that many physicians prescribe both iron and acid without any consideration for the teeth.

There is another reason for the greater number of women as dental patients, which must not be omitted, and that is the cosmetic or aesthetic side of the question. To men personally this usually means but little, but to women it means much.

But after a careful study of the foregoing reasons for a difference, and after allotting to them what we feel positive is ample credit for all

influences exerted, we yet feel that there still remains a large percentage owing their dental caries to causes entirely different from those already considered, and yet these causes may, and undoubtedly do, lend their aid to the condition we are about to consider.

*After the most careful observation and investigation, the writer is led to make the statement that it is the activity of the female reproduction organs that wields the greatest influence in the matter, either directly or indirectly. This we believe to be true whether the activity be during the periods of menstruation, gestation or lactation.*

Many writers have hinted at the influences that pregnancy bears in this relation, but thus far no one, so far as we have been able to learn, has taken into consideration the influences of the menstrual period, or the period of lactation.

A somewhat extended investigation along this line has led us to believe that these two functions also exert a very important influence, standing second only to pregnancy. That there is a universal belief that teeth decay more rapidly during pregnancy seems to be beyond question, but we fail entirely to find any recorded data which would tend to support that theory; therefore let us first prove this to be a fact.

#### **Influence of Gestation.**

It has been the writer's privilege to handle many patients who have been referred to him by a number of leading physicians for treatment during the period of gestation, thus affording an excellent opportunity to study this trouble.

Clinical history and observation have proven to us beyond a doubt that here lies the great cause.

We will cite a very few of the many cases which have proven this matter to our entire satisfaction.

#### **Case 1.**

Miss D., age 22, in excellent health. Examination of oral cavity shows mucous membrane healthy; teeth beautiful, and kept in good condition. Careful examination revealed one small amalgam filling six years old and three small cavities. Oral secretions alkaline. Filled and cleaned teeth; saw patient again in six months; mucous membrane, teeth and secretions all in a first-class condition. Six months later, again examined mouth; patient had been married about five months; teeth and mucous membrane in good condition, but secretions slightly acid. She left the city, and did not see her again for thirteen months, but in the meantime wrote me, saying that her teeth were getting very sensitive at the gingival margin, and that she could not keep them clean. Inquiry revealed the fact that she was in the sixth month of pregnancy. Prescribed with seeming relief. When examined again, thirteen months after the last examination, her baby



## ITEMS OF INTEREST

was five months old, and nursing. Found mouth very unhealthy, and a number of teeth carious, three of the amalgam fillings leaking, mucous membrane congested, gums soft, spongy, and bleeding upon the slightest provocation; secretions decidedly acid.

Filled teeth and placed upon a course of treatment, which soon relieved the trouble, and for two and a half years there was no recurrence. Presented at the end of this time with mucous membranes and secretions normal, but with a fracture of one of the walls of a molar containing a large amalgam filling. There was no decay.

Miss S., age 19, stenographer; fine physique and excellent health; a beautiful girl; never had consulted dentist before. Presented with odontalgia of three

**Case 2.** days activity. Examination showed exposed pulp in left superior first molar. No other cavities in a very beautiful set of teeth; mucous membrane healthy, except where blistered in seeking relief. Treated and filled teeth. Subsequent examinations during two and a half years showed normal secretions and no perceptible changes in teeth.

At the end of this time married, and again, in eighteen months, presented for examination. She was a mere shadow of her former self, and the mother of a six months' old baby. Examination revealed a horrible condition of the oral cavity. The entire mouth was diseased. Examination of the teeth revealed two exposed pulps. The eight superior anterior teeth all had extremely sensitive cavities at the labial gingival margin. The inferior cuspids, bicuspid and first molars showed the same condition, while the incisors and superior second bicuspid showed a very decided white line at the gingival margins.

The decay here was of the typical white kind; secretions were very decidedly acid. Placed upon treatment with very decided benefit.

Miss C., age 23; good health; mouth fairly healthy; teeth showed quite a number of fillings; four

**Case 3.** teeth missing; secretions slightly acid; several teeth needed filling. Filled the teeth and put on treatment. Subsequent examinations showed a slight acidity of the secretions except at menstrual period, when the acid condition was very decided. For two years no further trouble except requiring treatment for acid condition.

Married, and in ten months gave birth to a son. Treatment followed during early and latter part of pregnancy, with the result that there has been but little trouble. Treatment being obnoxious, was neglected until teeth became sensitive at gum margin, when it was resumed under protest. Results showed loss of tooth substance at gingival margins, a typical white line showing on a number of the teeth and with four small cavities.



**Case 4.**

Mrs. L.; referred; second pregnancy; six months. Examination showed exposed pulp in upper first molar; four other cavities; four teeth filled; saliva decidedly acid; mucous membrane hyperemic; gums bled easily, etc. History: Had never had any trouble until after first child was born; had four teeth filled following this, and located small cavity in molar. Two and a half years passed, with the result as given above. Treated teeth; placed on alkaline and prophylactic treatment with arrest of trouble.

**Case 5.**

Mrs. F.; referred; second pregnancy; seven months. Examination showed two exposed pulps, some old roots, several filled teeth; secretions decidedly acid; mucous membrane hyperemic. History: Never had trouble with teeth until during and after first pregnancy.

We could cite case after case of this kind, but have only selected a very few of the typical ones. We rarely have a married woman patient but that we get the history of the number of pregnancies, if any, and the condition of the teeth prior, during and following that period. A large majority had but little trouble prior to that period, many tracing it to that time, and all of them notice a very marked increase in the tendency along that line.

Of lactation all we need say is that we find that the marked acid condition of the secretions and the decay seem to continue all the time.

**Influence  
of Menstruation.**

Of the influence of menstruation there has been nothing written, nor has the matter been discussed so far as we can learn. From observation and clinical experiments we are convinced that this function wields an influence second only to that of pregnancy and lactation in both the length of time and the degree of the disturbance produced at the time.

The average woman menstruates about sixty days each year and one hundred and twenty days in two years. The average period of gestation or lactation is about two years, or seven hundred and thirty days, which is six times greater than the time consumed in the menstrual periods.

The intermittency of the menstrual period prevents its ever becoming as important a factor as pregnancy or lactation, because each period is of so short duration that the disturbing phenomena does not get an opportunity to develop to a stage sufficient to make any marked difference, and yet the repeated occurrence even with a mild action is sufficient to make its influence very marked as the years roll by.

The time when the influence of this function may be most noticed is when childhood ends and womanhood begins, or rather that period which lies between the two. We have seen patients whose teeth were perfect,



## ITEMS OF INTEREST

or comparatively so, before her little system became disturbed by the approach of the menstrual period, and yet have seen the little patients return shortly after this stage and found that their mouths have undergone a complete change. The teeth present the same condition that is found during or following a pregnancy, caused by the general systemic disturbance which the change from child to woman produces.

To the mind of the writer menstruation is but the activity of disappointed nature in keeping the reproductive organs from losing any of their functional powers due to inactivity, and that the conditions which exist then are typical of those occurring in pregnancy as far as the influence bears upon the side of the question that interests us, except that it is very much less in degree of activity.

We have quite a number of cases that will support this idea, but time will not permit our recording them here. If we have proven that women lose their teeth more rapidly than men or that they decay more frequently, and have also proven that menstruation, pregnancy and lactation occupy an important place in the cause of this condition, it then becomes our duty to learn if possible why, and following this to find the means of preventing it.

### **Alterations of Secretions.**

We believe that in physiological woman the oral secretions are always alkaline in reaction, but in the woman of today, in whom so many pathological conditions exist that a number of the normal physiological functions are, or become pathological, we find this condition changed.

We find the chemical reaction of the saliva ranging from slightly alkaline to decidedly acid. The same may be said of man, in whom many of the same causes exist; but the condition occurs less frequently, and when it does it is many times of a very different nature. Where the change in the condition of the secretions is due to causes other than the influence exerted by the female generative organs, then the results are the same in both sexes; but should not be discussed in this paper except to state that in man the size and structure of the dental organs require a longer and stronger activity.

Where the acidity can be traced to the derangement of the female organs of generation there is to the mind of the writer a more marked difference in the results; especially is this true during menstruation, gestation and lactation.

At this point we wish to answer in part the questions which have been raised by Dr. I. C. Edington in the *Cosmos*, when he says: "I cannot look upon pregnancy as anything but the natural way of reproduction, and as such it must be normal, and if normal it cannot be patho-

logical, and if not pathological how can the secretions be perverted to the degree of destroying useful organs?"

Our reply is, pregnancy is a physiological and not a pathological process. Menstruation and lactation are also physiological and not pathological manifestations of the female organs. They may not in themselves produce pathological conditions when surrounded by that which nature gave and intended should be maintained. The trouble is not in the activity of these functions in themselves, but is due to the abnormal conditions under which they must perform their duties.

In this activity there is a greater demand upon the system, and the perfect physiological body knows no pathological influence at this time. Women of today, particularly American women, and more especially the women of our American cities, are in a condition physically due to the practices of the past and present that requires a decided effort on the part of the general system to prevent the inroads of pathological conditions. In fact, pathological conditions exist in the majority of cases. Is it any wonder, then, that the healthy but overtaxed woman shows pathological tendencies or conditions when called upon to meet this extra strain, or that the pathological conditions become much more marked where they already exist?

The examination of a large number of mouths both by the writer, and at his request by a number of leading specialists, particularly Dr. H. H. Powell, Dr. F. A. Burke and Dr. F. S. Clark, of this city, has failed to show a single case of pregnancy in which there was not an acid condition of the oral secretions. These examinations also showed that the degree of acidity increases as the period of gestation advances. The examinations showed further that the acidity extends through the period of lactation, gradually diminishing as the period draws to a close.

It was in the menstrual period that we encountered so much difficulty in proving our theory. We could not make examinations ourselves that were at all satisfactory, and it was only after placing litmus paper in the hands of the patient, with instructions how to use it, that we got results which were gratifying.

By this method we found that in almost every case there was at some time during the flow an acid reaction of the saliva. That this acid condition is pathological all will admit, but the question arises, does it normally occur? To prove our statement that these functions are not in themselves responsible, we have made or caused to be made an extended examination of the saliva of quite a number of the domestic animals, including the horse, cow, sheep, dog, cat, etc., and in no case was there found to be any difference in the secretions, whether during gestation, lactation or in the interval between.



## ITEMS OF INTEREST

In addition to this we had hoped to be able to show that among certain sects of the human race who live and dress in the most simple fashion and follow nature's laws most closely that the same results will be found, but our investigation here is not complete.

The above shows conclusively that gestation and lactation performed under normal conditions do not produce a faulty salivary secretion. Thus far we have simply proven that pregnancy, lactation and menstruation, together with other derangements of the female organs of reproduction, is the explanation of the decay or loss of the teeth of woman faster or earlier than in man.

It was our purpose to attempt in this same manner to show how the secretions are effected and why their action brings about certain results; but we have already tired you, and to enter into a full discussion of this phase of the subject at this time would be a hardship.

Let us continue then by simply stating what our experiments farther along this line have led us to believe to be true. We believe that the acidity of the saliva existing during the activity of the organs of generation is the main cause or condition which makes caries more prevalent at this time.

Black says: "Acidity may exist without decay, but decay never exists without acidity," and we agree with him. Who of us have not seen many mouths where there was a decided acidity of the oral secretions, and yet the teeth seemed immune as far as decay was concerned.

We refer to those cases of rheumatic or gouty diathesis which give us so much trouble aside from caries.

We believe that the acidity is of a very different nature during menstruation, gestation and lactation from the acidity found at other times, or that it is accompanied by a product of uterine activity, which in itself has the power to attack the lime salts in the body and prepare them for use in building up the osseous structure of the fetus. We might call it a sort of a ferment.

At present in completion of our investigation we are unprepared to say which is correct, but we have progressed far enough to feel that the acidity is assisted by this hitherto unrecognized substance or agent.

The cause of the change in the oral secretions is due to the change which takes place in the blood, and this is in turn due to both the selective and rejective powers of the uterine tissues and to the faulty activity of the nutritive functions, which seems closely associated or related to the conditions found in lithemia and osteo-malácea, both of which are influenced and intensified during pregnancy.

**Treatment.**

Now a word as to treatment: This has been confined mostly to antacid treatment, both local and general. We rely in the main upon local treatment, leaving the general systemic treatment more to the attending physician, with whom we frequently consult. The local treatment consists of the ordinary prophylaxis, followed by Phillips milk of magnesia morning and night in mild cases, using it oftener in the more marked cases of acidity.

This rule applies to all cases, whether during menstruation, gestation or lactation. Our patients are instructed not to remove the deposit formed upon the teeth. This deposit is great or small just in proportion to the degree of acidity of the oral secretions.

One of the greatest drawbacks in the past to this treatment is the fact that the taste of magnesia has been very obnoxious to some of the patients.

So frequent was this complaint heard that we set about some years ago to produce some flavoring material that would remove this objection. Our experiments were unsatisfactory until after we were able to get the C. H. Phillips Chemical Co. interested, when after quite an investigation in this connection they sent us a number of formulæ for use in this connection.

Since then we have had no trouble, and all of our female patients are instructed why and how to use this remedy, which has proven a great aid in preventing further inroads upon the teeth.

The formulæ are as follows: Six drops of either to 12 ounces.

Oil of Lemon.....	3 parts.
Oil of Bitter Orange.....	1 part.
Oil of Neroli.....	1 part.
<hr/>	
Oil of Orange.....	20 parts.
Oil of Lemon.....	10 parts.
Oil of Coriander.....	2 parts.
Oil of Anis.....	1 part.
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Oil of Bitter Almonds.....	1 part.
Oil of Anis.....	3 parts.
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Oil of Wintergreen.....	4 parts.
Oil of Cinnamon.....	3 parts.
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Oil of Sassafras.....	2 parts.
Oil of Peppermint.....	1 part.
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Oil of Cinnamon.....	



## ITEMS OF INTEREST

The systemic treatment has been of a two-fold nature, prohibitory and excretory.

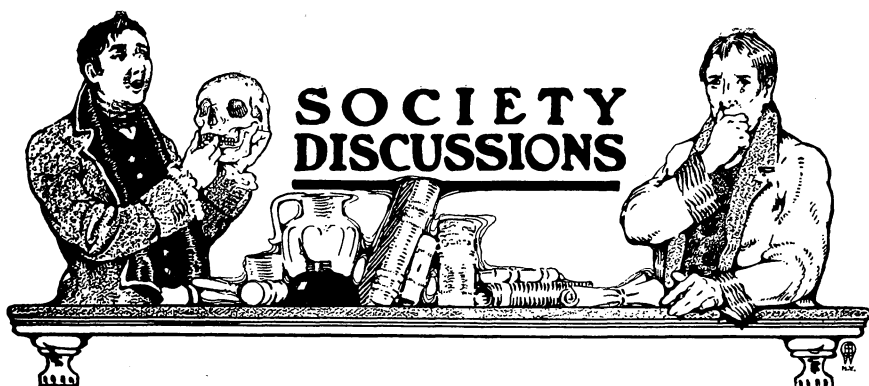
The prohibitory treatment consists in regulating the method and manner of living to a degree most favorable to perfect physical development, together with the use of medicinal agents which tend to restore or stimulate the various functions of the body to perform their full duty.

The excretory treatment comprises the use of medicinal agents which tend to eliminate the existing faulty conditions through the various secretions; but in the explanation of the phenomena producing the acidity, together with the setting forth of the means and methods of prevention of the same, there lies sufficient material for a somewhat extended paper, and we leave that for a future time.

In closing we wish to thank Drs. Jackman, Whitslar, Wilson, Barnes and Price, our colleagues in the dental profession, who kindly furnished us with data enabling us to give percentages of the male and female desiring our attention.

And we wish to particularly thank Drs. F. S. Clark, T. A. Burke and H. H. Powell, our brothers of the medical profession, for the valuable assistance they furnished in ascertaining the true condition of the secretions of the mouth.





## **New Jersey State Dental Society.**

**34th Annual Meeting.**

**Wednesday, July 20th, 1904.**

### **Morning Session.**

President Sutphen called the meeting to order.

Secretary Meeker called the roll and a quorum was found to be present.

President Sutphen then introduced Rev. W. R. Wedderspoon, of the First M. E. Church, Asbury Park, N. J., who delivered a prayer.

The president then called Vice-President Chase to the chair.

The next order of business will be the reading  
**Vice-President Chase.** of the President's address, and you will please give it your attention.

President Sutphen then read his address as follows:

### **President's Address.**

It is with great pleasure that your president greets the members and friends of the New Jersey State Dental Society at its thirty-fourth annual meeting, and bids you all a sincere welcome to its sessions.

The months leading up to this meeting have been very busy ones for your committees, who have all been most diligent in the work laid out for them as attested in part by the programme.

The Essay Committee, under the leadership of Dr. Hawke, has obtained for us essayists of worldwide reputation to all of whose words we can listen with pleasure and profit.

Dr. Duffield, of the Clinic Committee, has secured clinicians of power



## ITEMS OF INTEREST

and prominence, and leads easily in interest and variety and helpfulness any series of clinics ever presented by a State society.

Our exhibits, under the efficient generalship of Dr. Chase, attain proportions this year undreamt of a few years ago, and are in themselves an education in dentistry.

The other committees have also done most faithful and efficient work, which redounds to the credit and prestige of our society.

Our secretary, Dr. Meeker, as in so many past years, has been untiring in his efforts to make our meeting successful, and this year his labors have been concentrated (amid the cares and responsibility of so many other outside duties) on this subject.

At this time I want to impress upon our younger members the benefits they will derive from active work in our society, and to urge them to heartily and earnestly enter upon the work of the minor committees, and so work themselves into more and more important duties, reminding them that in this way, and only thus, can they obtain the pleasure and profit of true society membership. As you help the society, you benefit yourself. In just such proportions as you work will the society be advanced in the confidence and respect of the profession and the community.

I am happy to tell you that our membership has remained unbroken this year.

Your Executive Committee has inaugurated two innovations this year. The first is to make this day Exhibitors' Day, giving it up to them (so that this meeting will be a very short one, with no business transacted—not even a lengthy president's address); the second innovation is a reception to our members, guests and exhibitors tomorrow evening, after the session of the society.

One very good advance in the work of the state during the year has been the formation in Trenton of the Mercer Dental Society. It started in the spring with a good charter membership, and bids fair to be a healthy, vigorous and successful organization, and to add much to the efficacy of our general state work in building up the interests in that section.

### **Interstate Fraternity.**

In another line of society endeavor there has been organized the Interstate Dental Fraternity, whose aim is to band together the profession in all parts of the country, not to discuss dental topics, but to enhance brotherly sympathy and good fellowship.

The growth of the Fraternity has been remarkable, and the good already accomplished immeasurable. It is the desire to still further increase the membership in New Jersey.



## SOCIETY DISCUSSIONS

### **Interchange of License.**

The interchange of license to practice dentistry between the various state examining boards has the promise of soon being an accomplished fact. Our Dr. Stockton offered a resolution at the meeting of the National Board of Examiners at Asheville, and after a full day's discussion it was unanimously adopted. This resolution has already been adopted in several of the states, and it is hoped and believed will soon become the practice of all.

The World's Dental Congress, to be held in St. Louis the latter part of August, is already assured a great success, and your president would urge the members of our society and their confreres in New Jersey to do their full share in making it worthy of the profession in the United States by their attendance or their subscriptions. We should show the profession from the other side what our much-boasted American hospitality and liberality really is.

The subject of the examination of the mouths of children in the public schools is receiving more and more discussion, and dental societies in several states are now seriously advocating measures for its adoption.

This is a subject needing attention and adoption, and I would advocate the matter being taken up by our state, so that in this, as in all matters pertaining to the elevation and advancement of our calling, New Jersey should be in the vanguard.

I cannot close this address without thus publicly thanking the members of the New Jersey State Dental Society for the honor they have conferred in thus elevating me to the highest position of trust in its power to bestow, that of its president.

I thank you one and all for your most royal and hearty support.

### **Discussion of President's Address.**

#### **Vice-President Chase.**

Gentlemen, you have heard the reading of the President's address; what is your pleasure?

Will you have the discussion upon it now or shall it be referred to a committee? For the last few years it has been the custom for members to make remarks on the paper at the time of its being read. That plan has worked very well, and would probably do so at this time; if any gentleman has anything to say in relation to the President's address, we should be glad to hear from him now.

#### **Dr. Stockton.**

Mr. Chairman and Gentlemen: I am very much in favor of discussing the President's address at the time it is read, rather than having it referred to a committee for a later report, unless there be some special parts of it requiring such action.



## ITEMS OF INTEREST

I congratulate you, Dr. Sutphen, very heartily, in having proceeded step by step up the ladder of success until you stand today upon its highest round. It is a very great honor to be president of the New Jersey State Dental Society. It is a matter of exceeding regret to me that I was president so many years ago, when this was but a small society. I would like to turn back—"Backward, turn Backward, O Time, in thy flight,"—and again be a young man and achieve this honor, because I consider it a very great honor, as I have said, to be president of this society.

But you cannot reach what Dr. Sutphen has reached, and what some others have reached in the New Jersey State Dental Society, unless you do the work which is necessary to get there. You cannot, by some mighty bound from the bottom, reach the top; although the ladder is not very high, you must go up step by step, and you, young men, must work your way to the top as he has done, and any young man can work for the presidency of this society.

### **Interchange of License.**

I, perhaps, Mr. President, rose to my feet as much, as anything else, to refer again to the subject of the interchange of licenses. I am proud to be the one starting that idea—the interchange of licenses between the different states, that is likely to be effective. You can picture in your minds or I will picture it for you, this morning, a young man not blest with the goods of this world, and his parents not being wealthy to the extent that they would like to be, but who have taken from their earnings, secured by their own hard labor, sufficient to send their boy through the high school; then the question arises, how is he to repay the great outlay by his parents in his behalf; after inquiry, it is determined he shall be a dentist. He goes to college, for three years now, I believe (they have gone back on the four years' course, I am very sorry to say), and that three years' course costs not less than three thousand dollars. He receives a diploma and is a proud boy when he thinks that he has been given by the faculty of the college the right to practice dentistry. But he is held up today by every State Board in the country, and justly so. He cannot go from that college and practice dentistry; he must have a state license in order to practice. You may regard that as a hardship, but there is no way out of it. He goes before the State Board and passes a satisfactory examination, if he has been true to himself, to his college and to the parents who furnished the means for his education. Some are neither true to themselves, to the college nor to those who sent them there, I am sorry to say; but if he has been all this, he receives a license, and goes into some town in New Jersey and commences to practice. He has a pleasing address, he is a good operator,

## SOCIETY DISCUSSIONS

is qualified to practice dentistry and makes friends wherever he goes. He is soon able to pay back to his parents some of this large outlay. Presently, by over-exertion, or because of a feeble constitution, he is run down; he has a hacking cough, and his physician tells him he must leave this climate and go to a milder one. He enters into correspondence, perhaps, with the State Board of California, or Florida, or some other state, where the climate is such that he can live, and practice his profession there. But he is told that before he can practice there, he must pass an examination. He has been in active practice for several years, and has forgotten many of the things he was able to answer when he graduated from college, and is unprepared for such an examination, and so is prevented from practicing his profession in the only part of the country where he can live. I say that is wrong. If he is qualified to practice dentistry in New Jersey—in all deference to the Board, of which I happen to be a member—he is qualified to practice dentistry in any state in the Union. (Loud applause.) He ought to be allowed to do so, for the State Board of New Jersey will not give a license to a man not qualified, or not fit, morally or intellectually, to practice, and if he has such a certificate, we know that he is qualified, we know that he is the right kind of a man, and I say again he should be allowed to practice that profession which it has cost him so much to acquire, in any State in this broad land. (Renewed applause.)

### Dentistry in the Public Schools.

I highly commend the President's recommendations with regard to the public schools. If we could have the mouths of all the school children examined, and charts made, and the charts sent to the parents, showing what the child needs to have done to his teeth, there would be a great revelation concerning the care of the teeth of children.

People think there is no more room for dentists, but there is lots of room in New Jersey, and in every other state, for dentists. If I were a young man, and knew of a town of five thousand inhabitants where there was no dentist, and never had been one, I would not want to go there. I would rather go to a town where there are five dentists, for there the people have been educated concerning the care of their teeth.

So in regard to this matter of the school children; if the parents could be shown what was necessary to be done, a great many would have it done, and the recommendation is a very happy one.

I again congratulate you, Dr. Sutphen, on being president of the New Jersey State Dental Society. (Applause.)

### Dr. Meeker.

I cannot let my protege's address go by without saying something.

This is the only society in the United States that



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has a civil service method. Think of that. There is no social power that helps one into office here; promotion is the result of brains and of work.

### **The Value of Exhibits.**

This meeting is the realization of a dream of twenty years concerning what our state society would be in the future. We have often heard remarks concerning the dental parlor, and ethical and non-ethical dentists. Today, Dr. Chase, the chairman of our Exhibit Committee, tells me there are eighty-three exhibitors. Those eighty-three exhibitors are an advertisement of the ethical dentist. Any dentist, for a dollar a year, can get all the papers that are written, but he cannot come into this post-graduate course; he cannot witness the object lesson of all that is new and all that appertains to the brain work of dentists and dentistry during the past year. How many of us have time to visit the dental depots? I do not think I have been to one four times this year. But I come here, and in our exhibits see the result of the labors of the inventors, and learn what men are doing and what has been the progress in dentistry. Could I get that in dental literature? Oh, no! I could get the papers, but I could not get this object lesson.

Ten or fifteen years ago, the elder men in the National Association thought it wrong for that society to hold a clinic or have an exhibit; they feared it might cause them to be classed as non-ethical men. This year, twelve hundred programmes have been sent out for this meeting, and I have received letters from Massachusetts, Ohio, Indiana, Pennsylvania, New York, Connecticut and Rhode Island, showing that men wanted to come and see the exhibit of dental machinery and appliances that is here offered for inspection. I verily believe that our exhibits are more complete than anything those who go to St. Louis will see. Now what is the result of this? The non-ethical dentist, the dental parlor man, must have patience in order to live. The press, which is such a great power in this country, comes here, and I recall the time when some of our members thought the press should not be admitted to our meetings, but the reporters come here and disseminate the news regarding dentistry throughout the entire country, and hundreds and thousands of people read these press notices and some of those readers go to the non-ethical dentist and they ask him about it, and find out he is not a member of his state society, and the dentist loses caste with his patient at once. The result of that is that in the course of time the non-ethical dentist will find that it is to his advantage to become ethical and obtain membership in his state society.

Dr. Sutphen is a living example of what any young man in this society can achieve; he has served on almost every committee, has performed

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every class of society work, and gained an experience such as few men have, and the man who succeeds him this year under our civil service method knows what some of that work has been. Thus, the members of this society are well known and the consequence is that all through the country, wherever one such may be, they say: "He comes from New Jersey, he knows how to do the work; he has had experience, and has gone from the A, B, G class to the very highest."

**Vice-President Chase.**

If there are no further remarks, we will close the discussion on the President's address.

Dr. Meeker dwelt upon the advantage of our exhibits; while that cannot be disputed, still we must not lose sight of the fact that this is a scientific body. We come here to listen to papers upon scientific subjects and I hope that to look at the exhibits is not the only idea the dentists have who come here. We should come here with our minds prepared to receive new ideas so that we may go forth to our patients and say, "I have heard something new this year; I am a better dentist today than I was yesterday."

President Sutphen resumed the chair.

The membership committee presented the following applications for membership, which on motion took the usual course.

Dr. Zelopherd Hand, Millville, N. J.; Sponsors, Drs. Stevens and Jacquette. Dr. Carlton D. Schute, Glassboro, N. J.; sponsors, Drs. Stevens and Jacquette. Dr. Fred B. Burdge, Asbury Park, N. J.; sponsors, Drs. Taylor, Tompkins and Rhome. Dr. T. R. Harvey, Westfield, N. J.; sponsors, Drs. Jacquette and Stevens. Dr. Sarah G. Jackson, Vineland, N. J.; sponsors, Drs. Jacquette and Stevens. Dr. Albert Kerr, Town of Union, N. J.; sponsors, Drs. Jacquette and Stevens.

Dr. Meeker then read the following preamble and resolution:

### Resolution.

*Whereas:* Congress on February 2, 1901, authorized the appointment of a contract corps of dental surgeons to be attached to the Medical Department of the United States Army. And,

*Whereas,* This action of Congress was based upon the recognition of the fact that dental diseases were very prevalent among all civilized nations, and that these diseases were greatly increased among American soldiers when serving in the tropical climates, as was later shown by the reports of the Surgeon General United States Army, for the years 1902, 1903, and also by examinations made by members of the dental corps of two regiments recently returned from the Philippine service, in which in one regiment was found that 87 per cent and in the other 93 per cent were in need of immediate dental treatment. And,



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*Whereas*, The preservation of the teeth is a very important factor in maintaining the general health of the soldier, and consequently contributing to the highest efficiency of an army.

*Whereas*, The report of the Surgeon General for 1903, shows that 16,161, or 20 per cent of the entire strength of the army, was treated during that year for dental diseases (49,483 operations being made), and that this service was necessary to relieve the men from pain and suffering, and fit them to perform their military duties. This vast amount of work was done by a corps of only thirty dental surgeons, a force working beyond the hours prescribed by army regulations for long continued periods. And,

*Whereas*, It is the opinion of the dental profession that it is impossible for one dental surgeon to adequately care for the dental diseases that would naturally occur among 500 men. It is, therefore, a self-evident fact that thirty dental surgeons cannot properly care for our army composed as it is now of about 5,000 officers and enlisted men. And,

*Whereas*, In the opinion of the dental profession the status of a contract dental corps is not in accordance with the standing and dignity of scientifically educated dental surgeons who hold a required university degree, and are obliged to pass a rigid professional examination to enter the service. And,

*Whereas*, It is our opinion that the professional standing and services of the army dental surgeon entitle him to recognition as a commissioned officer. Now, therefore, be it

*Resolved*, That this association most respectfully requests the Honorable Secretary of War to recommend to Congress, at its next session, the passage of a bill creating a commissioned corps of dental surgeons to be attached to the medical department in numbers adequate to the present needs of the service, with the following grades, viz.: First lieutenant, captain, major and lieutenant colonel, with pay, allowances, promotion and retirement of officers of like grade in the Medical Department.

On motion of Dr. Meeker it was resolved that the foregoing be the sense of the New Jersey State Dental Society.

On motion adjourned until eight o'clock p. m.

**Wednesday, July 20th, 1904.**

**Evening Session.**

In the absence of the president, Vice-President Chase called the meeting to order.

The secretary called the roll and a quorum was found to be present.

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**Vice-President  
Chase.**

By request we will have read now a paper entitled "Treatment of Pyorrhea," by Gordon White, D.D.S., of Nashville, Tenn., as Dr. White wishes to demonstrate his method tomorrow afternoon by a clinic.

### **Discussion of Dr. White's Paper.**

**Dr. Harlan.** I did not expect when I came here this evening to open the discussion on the paper of Dr. Gordon White, as it was expected that Dr. Register, of Philadelphia, would do so, which would have given me in case I decided to say anything, still more to talk upon.

I had the pleasure of reading Dr. White's paper, so, that while I did not hear the whole of it, I heard enough to satisfy me that this was a subject in which every dentist should take a deep personal interest.

Dr. Gordon White has spoken particularly of his special treatment of pyorrhea alveolaris. It was my good fortune to recently attend a meeting of the section on stomatology of the American Medical Association at Atlantic City, and during one session four different speakers alluded to this malady of the gums and peridental membrane as "interstitial gingivitis," "pathologic irregularity," "oral manifestation of disease of the maxilla," and "pyorrhea alveolaris." As Dr. White has not said anything about the pathology of this disease I will not, but I ask you if a layman were to go into the meeting of a dental society at the present time, and hear that the loosening of the teeth was denominated by all of these terms, would he not go away very much confused? I think it is about time that the dental profession should appoint a sufficient number of qualified, educated, capable persons to decide upon some form of denomination of this disease so that the lay public may at least know its name.

With reference to the particular line of treatment that has been laid down by Dr. Gordon White I feel sure that in many respects you will agree with him. There may be some modifications of the form of treatment in different localities in the United States and in foreign countries, but we must confront, as a profession and as a united profession, the malady which causes such an immense loss of teeth of the human race, no matter what it may be called. We know that dental caries is a destructive disease, that it is a disease which attacks the tooth at certain periods, that when once you have a lesion of the gums at the gingival margin, surrounding the neck of a tooth, that from that moment you have something to deal with which is insidious in its persistency and if neglected or badly treated the possessor of that tooth will surely lose it. So you must conclude for yourselves tonight, although many men are writing papers on this subject, that you have to adopt some system of prophylactic treatment, and an education of



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the people and an education of the medical profession, to start at the beginning, and to prevent as far as possible the lesions that cause this destruction of the teeth. We can repair a cavity in a tooth with porcelain, or gold, or cement, or some other substance, and we can repair the damages caused by accident or by the injudicious extraction of the teeth or the injudicious separation of the teeth, but there is not a single one of you who can repair permanently a tooth that is so loosened that it has lost its attachment and has lost its bony socket. So it devolves upon you, all of you, old and young, to study the methods of prevention and to put them into practice, and to impress upon the public the absolute necessity of following out any reasonable logical and sanitary precautions that you may adopt to prevent the loss of teeth.

### **Electricity as a Curative Agent.**

The president has asked me if I will say something about the use of electricity on maladies of the gum. One year ago I had the honor of reading a paper before this society in which I spoke about the possibilities and the probabilities of using the electric light in some form, for the arrest of pus formations. So far nothing has been published with relation to that, but I have in my office a small lamp which is capable of producing what is known as the violet ray for use in the arrest of pus, and the agents that produce it. I also have an apparatus for producing what is known as the atinic ray, which enables me to distribute the heat from the ordinary current so reduced as to come through a minute lamp of this character, so that the heat will be distributed through the soft tissues, when placed behind the tooth or teeth. By applying this at intervals of from three to five minutes every day, for about twenty to twenty-six days, I have been able to arrest pus formations after the surgical removal of the salivary calculus from the roots of the teeth.

I am not prepared at this time to make a full explanation of this apparatus and its work because I do not really understand it myself, but there are one or two gentlemen in this room now who have seen that this light is capable of producing such a heat, that it will destroy any organism that may rest between the soft tissues of the tooth and the root of that tooth.

### **Dr. Meeker.**

I have seen this light and I sincerely trust that by next fall Dr. Harlan will be able to read a paper before our Central Dental Society concerning his discoveries thus far.

### **Dr. Freeman.**

I would like to ask Dr. Harlan if, after the removal, by surgical operations, antiseptics would not produce the same result as secured by the use of his electric ray, in less time than from twenty to thirty days.



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If you will permit me I would like to make a few personal remarks in replying to that question.

**Dr. Harlan.**

About the middle of October last year, a lady who was about sixty-seven years of age, had a very decided pocket beside the root of the superior central incisor, and at the same time there was a pocket of perhaps the same dimensions, although with perhaps not the same outlines, on the superior cuspid. I injected into the pocket on the cuspid astringents, coagulants, stimulants, etc., and on the central incisor I simply applied the electric light every day. I darkened the room absolutely, as nearly as possible, and placed the lamp immediately behind the tooth in close proximity to the gum, and when she could no longer stand the application of the electric light I ceased, and that usually occurred within from three to four or five minutes. At the end of a week the pus has ceased entirely on the central incisor, and at the end of four weeks it had not ceased on the cuspid, so I abandoned the use of the substances which I had used there and applied the electric light, and at the end of twelve or fifteen days (she did not come to my office on Sundays), the pus had ceased, and shortly afterwards, between that and the first of January, the tooth became firm. I saw her in April, the last week I was in Chicago, and there had been no recurrence in that particular case. I do not know whether it was because of the age of the lady or the particular care I exercised in the treatment of that case, but certainly the result was most gratifying.

We know, Dr. Freeman knows, and every other intelligent dentist knows, that if you perform a surgical operation on a tooth in the way of a removal of any foreign accretions, scraping soft tissues, scraping the edge of the alveolar process and washing it out thoroughly, that ordinarily the application of lactic acid, trichloractic acid or sulphuric acid will arrest pus formation, but you do not always have a reproduction of tissues so that the tooth will become firm. But many times if you hold the tooth firm by splints or ligatures fixed so that they will not move, those teeth will become firm, but not many of them in the cases of persons of sixty, sixty-five or seventy years of age.

The subject of pyorrhea, as Dr. Harlan has said, is one of vital interest to us all, and while

**Dr. Joseph Head.**

I cannot help feeling, from what he has said, that the violet ray will be of great value in some cases in stopping the flow of pus, I also feel that under ordinary circumstances we have a remedy that is its equal and sometimes its superior. Dr. Gordon White has beautifully described the necessity for antiseptic surgery, the thorough cleansing of the pocket and rendering the pocket aseptic. I have always felt that pyorrhea is a filth disease, that perhaps one-tenth comes from systemic conditions, and



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nine-tenths from a condition of filth in the mouth. In fact I think that ordinarily to cure disease we have only to follow the advice that the little Jewish maiden gave to Haman; "Wash and be clean."

In an ordinary case of pyorrhea, in the first stage, where the pocket has not developed to such an extent as to cause loosening of the teeth, I think that the mere surgical removal of the bacterial deposits in the pocket will be sufficient to cause the gums to heal of themselves. But Dr. James Truman, whose name I never mention but I take my hat off, has given us a remedy that in my hands has secured unprecedentedly good results; he has said that when the pockets have been cleansed thoroughly and the teeth ligated or held immovable, if those pockets are stuffed full of sulphate of quinine it will give the absolute antiseptic dressing required; bacteria will be excluded from entering and as the quinine is absorbed by the tissue, the gum will fill in naturally, and will become reattached to the periodontal membrane or to the substance of the tooth, whichever it may be, and I would advise you all to give this remedy a trial. I do not ask you to take my word for it, I only ask you to see that the pockets are cleansed, to pack them thoroughly with quinine from top to bottom and if in the course of three or four days you do not find a profound change for the better, and a profound strengthening of the tooth in the socket, I shall be very much surprised.

I do not think this is a subject upon which I can enlighten you at all; I can only say that Dr. Gordon White's treatment is very much the same as I have been using for a number of years; I have had some successes and a good many failures, and that has been the case with all the treatments I have ever heard of; you have a few cases where there is absolute success, and a number of others where you can not do anything, and they go on and on in the same way; sometimes you think you have benefited the patient for awhile, but again and again they come back in the same condition.

My treatment has been to cleanse the pockets, or cleanse the teeth and remove the deposit, and then use trichloroacetic acid, and I have advocated for years massage with the fingers. Twenty years ago I first suggested the rubbing of the gums with the fingers, and I feel that I have had some benefit and improvement in cases from it.

I have given up the making of appliances for holding teeth into their places, and I now use nothing but a piece of Chinese grass line, and by tying knots between each tooth, and bringing it around I have had teeth kept firm for two or three years, teeth that old people would have lost. This Chinese grass line does not absorb the moisture or secretions of the mouth as other substances do, and you will find it as good as anything you can use, but be sure you make your knots between the teeth, and not so that

## SOCIETY DISCUSSIONS

they rub against the lips, for that will irritate them; and be sure every knot is tied tight. With that Chinese grass line the teeth can be made firm so as to be used for a great length of time.

Like every other practitioner, this detestable disease has caused me many hours and days of anxiety and trouble. Many systems have I tried, much have I labored to bring to my patients relief, and I have come to the conclusion that the only reliable and intelligent treatment lies in the absolute and perfect removal of all deposits. That seems a very simple thing to say, and yet I have never in my life seen but one man who could do it, and that man's name is Younger. I have stood by the side of that man's chair and seen him working on a tooth which to my sense of touch was absolutely devoid of an suspicion of calculary deposit and by-and-bye, with that marvelous gift of touch, which is a gift of God, which no man can perfectly acquire if it has not been given him, he has exhibited to me minute matter that he has brought out of some deep recess, and which I do not believe any one else could have found. A treatment like that is a treatment which must be done by a God-gifted specialist: it is not a thing which can be done by the ordinary practitioner.

Our profession is dividing itself by natural evolution, into specialties, and the treatment of a bad case of pyorrhea is something which needs the intelligence, the experience, and the native qualities which some few men possess in an eminent degree.

After complete and perfect removal of all deposits, a process which may take for one tooth half an hour or two hours or a dozen sittings it may be; after that has been accomplished it is my experience that the subsequent medication is a matter of tolerable indifference. There is some advantage, I should say, from what I have been able to see of successes that have been made, in retaining those loosened teeth in rigid position. Younger's favorite plan is to support them by splints of celluloid, and he does that also with a delicacy and accuracy such as I fancy most of us would despair of acquiring. But there is in the treatment of this disease a great deal for the men who possess the natural capacity for following it. It requires amongst other things unlimited patience. Fancy what it means to take a poor, loose, apparently hopeless tooth, and day after day, advance only a little stage in its treatment, and week after week to have that tooth under care and finally, with great difficulty, preserve it. It is preserved. I have seen cures that have endured for years where there were loose teeth having only one-third of the root perhaps imbedded in the root tissue and below that only a still slighter portion imbedded in the alveolar process—I have seen these teeth restored to apparently absolute health, firm, useful, beautiful beyond all that skill of the prosthetic dentist can possibly attain. It is a miracle, it is a surgical miracle that such teeth can be preserved. They can be preserved but only by a man who has for it an absolute genius.





## Central Dental Association of Northern New Jersey.

A regular meeting of the Central Dental Association was held at the University Club on April 12, 1904. President Stockton called the meeting to order. A quorum being present, on motion the calling of the list and the reading of the minutes of the last meeting were dispensed with.

President Stockton stated that the Dinner Committee had had some difficulty concerning a place of meeting because of the lack of suitable places in the city for that purpose; that the De Jeane restaurant on Central Avenue could afford the necessary facilities, but the proprietor required more than has hitherto been paid, and requested an opinion of the association on the subject.

On motion the matter was left in the hands of the Dinner Committee.

President Stockton expressed his gratification at the large attendance, and extended a hearty welcome to all.

The president then referred to the new committees which he had appointed as follows:

Sociology—F. Rightmire, M. R. Brinkman, C. A. Rice.

Discussions—E. W. Harlow, F. L. Manning, W. Talbot.

Ethics—C. F. A. Hane, I. W. Claypoole, T. N. Bradfield

Securing Membership—William F. Cook, George A. Algor, Newton A. Bornstein.

Clinic Committee—S. C. G. Watkins, R. A. Albray, William P. Richards

The president referred briefly to the duties of these various committees, and urged the members thereof to exert their best powers for success, and concluded his remarks as follows:

The time has come when the young men must  
**Dr. Stockton.** do their duty to this society Some of us find our  
hair getting gray and others must take our places, and  
I am delighted to know we have so many capable young men who can  
do so. Remember, the opportunity is coming to you and you must not  
shirk it.

I have just concluded the reading of a most interesting book, from which I quote the following:

### “OPPORTUNITY.”

“Master of human destinies am I!

Fame, love and fortune on my footsteps wait;

Cities and fields I walk, I penetrate

Deserts and seas remote, and passing by



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Hovel and mart and palace—soon or late  
I knock unbidden once at every gate!

“If sleeping, wake—if feasting, rise before  
I turn away, it is the hour of fate,  
And they who follow me reach every state  
Mortals desire, and conquer every foe  
Save death; but those who doubt or hesitate,  
Condemned to failure, penury and woe,  
Seek me in vain and uselessly implore.  
I answer not, and I return no more ”

Do not let opportunity pass, young gentlemen, for it may never come again, and I call upon you, young men of the association, to embrace your opportunities, and discuss the papers that come before us.

This is a young men administration, and I want it to be the most successful of all the administrations of the society. I have no friends to reward and no enemies to punish; my whole aim as president of the association shall be to work for its success and make it even more successful than it has ever been in the past. (Loud applause.)

I now have the pleasure of introducing to you Robert L. Watkins, M.D., of New York, who will read a paper, illustrated by the stereopticon, on the subject of Septic Blood in Pyorrhea Alveolaris.

I purpose to show the difference between  
**Dr. Watkins.** healthy and tuberculous blood, a difference which is perceptible to almost anyone, especially in the advanced stage of that disease. My first idea was to take blood from a healthy subject, and also from a tuberculosis patient, and examine the blood of both; but it has been difficult to do that, and therefore I will take blood from a tuberculosis patient who has been furnished from the hospital, photograph it, and throw the photograph upon the screen, so that you can see for yourself what it looks like.

(Dr. Watkins proceeded to take blood from the wrist of a tuberculosis patient, and then retired for the purpose of making a photograph thereof.)

During the absence of Dr. Watkins, the president called upon various members and guests for remarks, the call being responded to by Dr. Herold, president of the Board of Health of the city of Newark; Dr. McKenzie, County Physician of Essex County, N. J.; Dr. Meeker, treasurer of the society; Dr. Leroy, of New York; Dr. Gould, of Brooklyn; Dr. Rightmire, of the Committee on Sociology; Dr. Harlan, of the Committee on Discussion, and Dr. Hane, of the Committee on Ethics.



## ITEMS OF INTEREST

**Dr. Dawbarn.** I have been particularly interested of late years in the rather surprising results I have accomplished by the use of a robin hue salt of silver, and I would like you gentlemen to try it. Being a general surgeon with a leaning towards the mouth, I have had no great opportunity of trying it in pyorrhea alveolaris, but it has accomplished results in suppuration elsewhere which have been marvelous.

**Argoral.** The chemical I refer to is argoral, and if I could have but one antiseptic that is the one I would have. It is better than any of the other salts of silver, being twenty-five per cent in strength as against eight per cent, at the most, of the other salts. It is very freely soluble, and though it is marvelously active in attacking microbes, it is equally marvelous in being so unirritating. I have made a saturated solution of it in water and applied it to my own eyelids, when I have had congestion of the eyelids from reading too much, and without irritation. Among men who are specialists in other lines of work, gonorrhea, for instance, the genital urinaries, it is admitted the best chemical in its power to attack microbes. It is also non-poisonous; a considerable amount could be swallowed without poisonous results. Therefore, if you made a saturated solution of that in water, which would look almost as black as ink, and applied it to the gums by syringing, good results might be expected. The patients would then be given a small supply of it, not a prescription but the medicine itself, and directed to apply it, say twice a day, with a tiny swab on a tooth pick to the gingival mucus membrane where it seemed to need it, as it would then extend by capillary attraction between the teeth and gums. If it acts as well there as elsewhere, you will find a remedy which is by no means contemptible, and I think you will agree with me that other remedies you have used in that line have been hardly more than contemptible, that is, they have not been at all satisfactory.

I could give you the names of a number of surgeons whom you would respect, who hold the same view with regard to its peculiar properties and who hold that it attacks the various pathogenic microbes without at all irritating the human flesh. Going back to 1881, Mecal of Paris went over the list of various chemicals, giving their relative strength in attacking microbes, and subsequently Sternberg, of the U. S. Army, verified that list, and the first five on that list in the order of their strength in destroying microbes were: Mercury bin iodide; iodide of sulphur; peroxide of hydrogen, when newly made—otherwise practically useless; mercury bichloride; nitrate of silver.

The trouble with nitrate of silver is that it is so violently irritating

## SOCIETY DISCUSSIONS

while active in attacking microbes. Here we have a chemical at least as valuable in attacking microbes, and without that irritating property.

Professor Halsted regularly dresses all his aseptic wounds as follows: He takes a book of silver foil such as painters use when they want to apply a silver sign to a glass door; that is steamed in the steam plant that all hospitals have now, and perhaps there will be twenty of such leaves in this one little book with pieces of tissue paper between. The tissue paper is all removed in the steaming, and the whole book is applied to the surface of the wound that has just been sewn up, and to the skin all around it for five or six inches, and over that the usual sterile cotton and bandages are placed. The advantage that it has over other sterile dressings is that it is not only aseptic, but it is antiseptic—any microbes which work up to the surface are at once attacked by the silver.

**Dr. Leroy.**

Does it stain?

It stains, but it does not stain the fingers so that

**Dr. Dawbarn.**

you cannot get it off, and if it gets on bed linen, for instance, it can be removed. I do not remember the way of doing it; but if any of you have occasion to test it and for any reason linen is stained and you will let me know, I will send you the formula which is effective in taking out the stain.

Many children's teeth are attacked by caries,

**Dr. Stockton.**

and are so sensitive that it is impossible to remove the carious tissue and fill the teeth, and many dentists have treated them with nitrate of silver. Do you think this would have the same effect on the dentine?

It would be worth trying. Whether it would

**Dr. Dawbarn.**

make a permanent stain that might show through the teeth from within I cannot say; that would be a matter for experimentation.

I have been experimenting with it in pyorrhea

**Dr. Hyatt.**

alveolaris, and I think the greatest benefit to be derived from its use is by first using creosote and iodine, drying the gums as fully as possible and then using argoral, taking a piece of wood and whittling it down until it is as fine as a toothpick and working the argoral in, which I find better than leaving it to capillary attraction. Used in that way I have found it reduces inflammation very rapidly.

I think it stands to reason that the first thing to

**Dr. Dawbarn.**

do is to cleanse absolutely and dry and then apply whatever chemical you desire to use.

I have been using argoral for some time; I make

**Dr. Kane.**

a saturated solution of it, and find I can work it in very well, for the capillary attraction is very great;



## ITEMS OF INTEREST

if you spread your solution at the base of the tooth it will take but a moment to get to the top; it covers everything but does not stain the tooth.

Speaking on another subject, Mr. President,  
**Dr. Dawbarn.** would you say that I were a candidate for a lunatic asylum if I were to assert that one of the worst curses the Lord ever supplied to the human race was a good set of salivary glands, and one of the greatest blessings is a poor set of salivary glands, always assuming that in either case the individual has had no instructions in physiology?

Suppose a person has a good set of salivary glands, in consequence the mouth is seldom dry, and the individual does not suffer from thirst; in a mouth with a poor set of salivary glands there is a sense of thirst and the individual drinks water freely.

Perhaps half of the individuals who die of Bright's disease have not kidney disease at all; the other half have kidney disease and are unable to eliminate the poisons that should be eliminated by the kidneys; but the other half have perfectly sound kidneys, but they do not drink water enough because they have good salivary glands, and have never been taught that they must drink quantities of water in order to be in good health, and their kidneys are trying to secrete practically mud, urine that is so thick that the kidneys are clogged. Just as a good rainstorm cleans out the gutters, so an abundance of water will do great good to a patient who may be threatened with kidney disease.

A man should excrete three pints of urine a day; that represents about one-half of the quantity of fluid that should be excreted, the other half being excreted by the breath, the skin, and so forth. A healthy individual must excrete then six pints every twenty-four hours, in order to be in perfect health in this respect, and in order to excrete it he must take it in. But he need not drink six pints of water, as water, for he may take fluid in various forms in addition to that of plain water; but one way or another he must take six pints of  $H_2O$  or he invites trouble with his kidneys.

Now, I think you will all agree with me that a good set of salivary glands is a curse and a bad set a blessing.

(Dr. Watkins then read his paper.)

### Discussion of Dr. Watkins's Paper.

A point of especial interest to the surgeon in  
**Dr. Dawbarn.** these days is that of leucocytosis. A surgeon in making his diagnosis is very apt to examine a drop of the blood, and very naturally in pyorrhea alveolaris that point is important. In six infectious fevers there is a diminution of the leucocytes, in typhoid fever, tuberculosis, measles, mumps, malaria and grippe.



## SOCIETY DISCUSSIONS

The average proportion of white blood cells to the red is about one to seven hundred and fifty; the third blood cells are intermediate in number between the white and the red. In a space the twenty-fifth of an inch in measurement, in normal blood there should be 5,000,000 red blood cells, and there should be the proportion of one in seven hundred and fifty of white; if it were as great as one in five hundred, then there would be 10,000 white blood cells in that little space, and 5,000,000 red, and if, in an average individual you find it as high as 10,000 you may say that subject has leucocytosis. In pyorrhea alveolaris you would expect to find fifteen or sixteen or eighteen thousand, and where an abscess is threatened, as in appendicitis, there would be as high as 20,000.

Dr. Connolly, of the Newark Board of Health, also discussed the subject, but his remarks were nearly inaudible to the stenographer. He was understood to say that some of the conditions described by Dr. Watkins as indicating tuberculosis might be caused by the crushing of the white cells in the taking of the blood from the patient, and also that the condition of diseased blood shown in another slide which exhibited the face of a patient suffering from epithelioma might be altered by the action of the atmosphere upon the blood.

Dr. Watkins deserves great commendation for the excellent demonstration that he has made of tuberculous blood and for his brief but able paper. Personally I can testify to the value of these morphologies, as noted by the Doctor in diagnosing tuberculosis, pre-tuberculosis, rheumatism, pre-embolism, syphilis, etc.

Dr. Cutter illustrated by a few case histories and closed with compliments to the Central Dental Association for its thorough work.

The patient from whom Dr. Watkins took the blood has been in the hospital for over two years and has been getting the serum that we make there. He was an extremely bad case when he came there and has been receiving the injections for some time. This serum is an anti-toxin and differs from any other anti-toxin that has ever been made for the treatment of tuberculosis. We have used it extensively, there having been over six thousand injections in tuberculosis patients, and in almost every one of them we have had good results. I myself have given somewhere in the neighborhood of over three thousand injections, and we can almost positively say that in the early stages we can arrest the disease; but in the advanced stages, where the vitality of the patient is gone, it modifies the disease and death is comparatively easy.





## ITEMS OF INTEREST

The condition of the blood shown in this case is therefore very interesting, and we are very anxious to attend tonight and learn the result of the examination.

**The President.**

Does this patient's condition warrant you in continuing the anti-toxin treatment?

**Dr. Herold.**

Yes, sir. Not only that, but where from any cause the patients are compelled to discontinue it they clamor for it

In many of the cases the patients follow their usual avocation; the injection is made every five days, and their sputum is carefully examined. Those that get well show the improvement by loss of fever, increased appetite, increased weight, and generally improved condition. I have one case where there have been two attacks of bronchitis and one of grippe, but no return of the former difficulties.

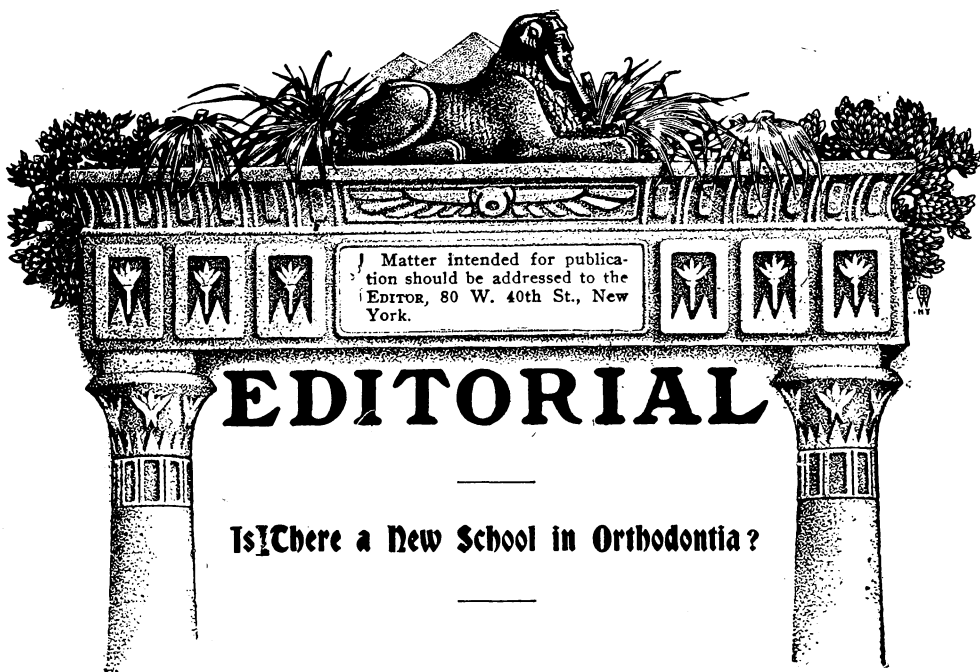
**Dr. Watkins.**

From what I have seen this evening I think Dr. Herold has a good thing, whatever it is, and I should advise him to keep on using it.

In regard to the tubercular matter coming out of white blood cells, as suggested by Dr. Connolly, sometimes granular matter does come out of the white cells; but it is not the same thing, for these granules are seen without pressing the cover glass.

In reference to Dr. Dawbarn's remarks, what has been called the blood plaques are in most cases the tubercular matter, or yeast.





At a recent meeting of a local dental society in New York an orthodontist read a paper, and several times used the expression, "the new school of orthodontia." In the discussion which ensued, exception was taken to the phrase and the claim advanced that it is not becomingly modest for the rising specialists to consider themselves a cult with superior methods and aims; it was said that the success of today's practitioners is entirely due to the basis laid down by the pioneers in the field, and that orthodontia methods of the present supersede those of the past, no more than do the modes of work in other fields. Granting all this, is it shown that there is not a new school of orthodontia? Must we admit then, that there is a new school? Let us see.

**The Old School  
Orthodontist.**

Time was when the watchful mother observed with distress that her little one's second teeth were coming in "crooked." She hurried to a dentist, and nine times out of ten she was told "not to worry." That there was "plenty of time." That, probably, the teeth would "straighten themselves." That, any way, nothing should be done "till the



## ITEMS OF INTEREST

entire second set had erupted," (excepting, of course, the so-called wisdom teeth). So the mother with regret patiently endured the "crooked" teeth till the child, perhaps, was twelve or fourteen years of age. By this time intervention was obligatory. The dentist could no longer put off the day of beginning. Something must be done. But the teeth being "twisted" and "crowded," he figured out that space must be made in which to regulate. If the crowding were not too great, he attempted to gain space by spreading the arch across the bicuspid region. If, however, this did not seem to promise sufficient "room," perforce *he extracted a couple of bicuspids*. Men with less skill, or less conscience, occasionally removed the *cuspid*s, usually the ones crowded out. This, of course, regulated the teeth by the instantaneous process. A few, who made a deeper (sic?) study of this complex question, sacrificed the *sixth year molars*, to allow the whole forward part of the arch to "fall back." That this might be absolutely impossible, because of the depth of the overbite and the articulation, apparently went unconsidered. That this extraction of the sixth year molars, never in a single instance, in the whole history of dentistry, produced any result at all adequate with the loss which it entailed, seems likewise not to have deterred those who followed the practice.

This is one glimpse of the "old school." Of course, it will be said that there were men who knew better; men who did better. Assuredly! else we would be, every jack of us, members of the old school yet. To the credit of the profession be it said, that a limited few did aim at higher things; did work to accomplish more than the automatic regulation of teeth by wholesale extraction of the more conspicuously "crooked" members of the dental arch. But who were these men? Twice ten fingers will serve to check them off. Moreover, these were in a sense specialists in orthodontia. While not practicing orthodontia as a separate specialty, as many do today, yet they found their greatest pleasure in that branch of dentistry, and invited the work from them that hated it. These limited few were the pioneers in orthodontia as a science, and some of the best of them are with us yet.

The pen picture of the old school, presented above, adequately describes the vast majority, and with sorrow be it said, these men likewise are "with us yet." Thousands are still being advised to leave things to Nature, or to wait until the child is twelve or fourteen. Hundreds of



teeth are being ruthlessly extracted for alleged regulation ; regulation of those teeth visible when the lips are slightly parted. And here we come to the parting of the ways ; to the chasm which divides the old from the new school.

What then is meant by the new school in orthodontia? The new differs from the old mainly in *motif*, in ideal. The primary object of the old school was to straighten a few anterior teeth that chanced to be crooked ; twisted or crowded, protruded or retruded. The new school recognizes abnormality and endeavors to restore normality ; it studies occlusion, and claims that normal occlusion demands the presence of every tooth that the Almighty planned for the human mouth, each in its proper place. A restoration of normal occlusion necessitates so-called regularity. Each tooth must be in true relation with those adjacent and with its antagonists in the other jaw. Obviously extraction can have no place in the doctrine of such a school. Extraction upsets the primary principle of the entire system ; it alters the *motif* ; it destroys all possibilities of reaching the ideal.

The old school disciples, even unto this day, often tell us "the occlusion of the bicuspid and molars was good ; only the front teeth needed straightening ; sooner than disturb this good occlusion I extracted the first bicuspid, and straightened the others."

The new school man tells us such a proposition is impossible. "If the anterior teeth could not be aligned without extraction, as you say, then I say, your posterior occlusion was not normal ; and it would have been less sinful to restore it to normal, than to extract two teeth which you can never replace, and cause a malocclusion of both jaws which you can never repair."

The idea that the new school has to do with methods is likewise erroneous. It happens to be a fact that the majority (not all) of the new school men are using but one method, but even these do not require others to adopt their mode of work. All the new school asks is, that the orthodontist should aim to restore normal occlusion, rather than the mere straightening out of a few anterior teeth, because they happen to be more readily seen. Such work is akin to polishing the labial surface of a gold filling, and leaving the palatal portion rough. It may be a quicker way, or a cheaper way, and it may even satisfy the ignorant patient. All this





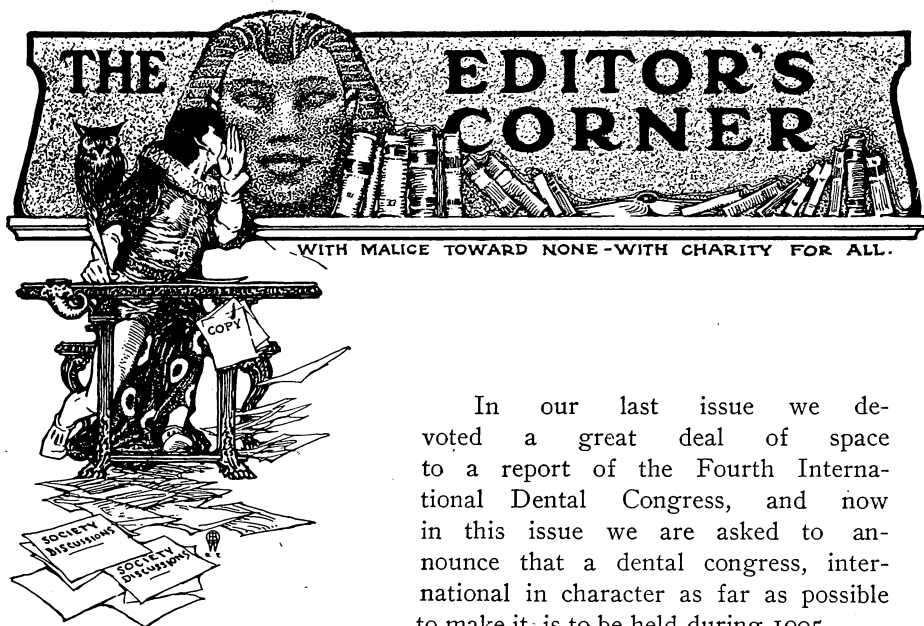
## ITEMS OF INTEREST

the old school men claim, and the new school men do not deny it. But nevertheless it is the wrong way, and there is a right way.

One other thing the new school orthodontist does ask. He begs of the general practitioner, who does not himself even "regulate" teeth, to stop giving advice, and more particularly to cease advocating the extraction of crooked teeth, or of straight teeth in mouths where crookedness may exist.

In conclusion, the new school admits that many members of the old school have done splendid work. All honor to them as pioneers.





### **Dental Congress for 1905.**

Temporary Committee, writes as follows:

"We are particularly desirous of securing the attendance of prominent Eastern men. It is their custom, usually, to spend their vacations in Europe or the mountains. Next year if they will join us in this Congress we can promise them a programme of intense professional interest, as well as a most delightful and instructive vacation.

"By proper routing Yellowstone Park, Puget Sound and Southeastern Alaska may be visited on the north, and on the south Yosemite Valley, and San Francisco, as well as the Columbia River from Portland.

"We expect the entire Pacific Coast west of the Rocky Mountains to actively participate in the Congress, and feel that we shall have a meeting second to none that has been held within the United States in recent years."

### **A Few Practical Hints.**

Dr. Will S. Payson, of Castine, Maine, sends the following:

"I have found the following very practical: For hemorrhage after extracting a tooth where there is



## ITEMS OF INTEREST

an approximal tooth left, ligate a German silver matrix with an extension soldered to it with soft solder, letting the extension project over the bleeding alveolus. Under this extension pack tightly cotton with a styptic. Leave it on for twenty-four or forty-eight hours. This will not hinder the patient in eating.

"To true lathe grind stones, hold a piece of chalk lightly against the revolving stone, using a hand rest so that the chalk touches the bulging part. Hold the chalked part of this stone against another revolving stone in the lathe firmly with a hand rest, thus truing one stone with another.

"A simple dish for sterilizing instruments is a seamless, copper, nickled shaking dish such as bartenders use, costing about sixty cents.



*Fig. 1.*

"Instead of using rubber dam clamps, in many cases, string one or two perforated shot on the ligature, tying the string about the shot, then placing around the tooth. Shot do not cut the ligature as would glass beads, and gives the patient a chance to close the mouth, which clamps may prevent."

### **Sterilization of Dental Instruments.**

The following communication was published in the *New York Times*, and is an evidence, if evidence were wanted, that the public are awakening to the meaning of the word asepsis:

"Allow me to express my thanks to 'A Subscriber' for the very much needed remarks on 'The Cleansing of Dentists' Tools.' Public interest should be aroused against this flagrant violation of nature's most necessary law, that of cleanliness. I wish to state my experience. I have just gone through a ten weeks' siege at a dentist's for very expensive work. During the times I waited in the office I observed the patients who were treated, the same instruments being used on the different ones without cleansing, a similar performance being done in my case on each and every occasion.

"I am informed that at a meeting of the Medical Association held in this Borough a few months ago a prominent lecturer on dental surgery urged the great necessity of antiseptic cleansing of dental instruments, guarding against germs and microbes of throat and lungs, as well as those lurking in decayed teeth. There is no law to compel dentists to cleanse their instruments, either after each operation or at any other time, and the only way at present lies with the people themselves to take up the matter





with their respective dentists and insist on the absolute cleanliness and sterilizing of their instruments, for which purpose machines, easy and inexpensive ones, are made, or the penalty would be a change to a dentist who is willing to be careful and guard them against worse evils from disease than even those mentioned herein."

**Blue Light  
as an  
Anesthetic.**

The following clipping from a local paper will prove an interesting account of a new method of producing anesthesia:

"The other day the Geneva correspondent of the *London Daily Mail* personally tested a new system, by which the glamor of romance, the joys of the lotus, are lent to the extraction of teeth. Dr. Camille Redard, a Swiss dentist, has discovered the method, whose efficacy, nay, whose whole philosophy, is based on the employment of blue light. (This is probably only a new form of the blue window pane cure of thirty-five years ago. Some of these panes may yet be seen in Boston windows.)

"Having placed the correspondent in a recumbent position, the doctor impressed upon him the great importance of faith in the new process, and then commanded him to gaze steadily at an ordinary sixteen-candle power electric light, with a blue glass bulb, fixed within eight inches of his eyes. Behind the lamp was a reflector. After covering his patient with a large blue cloth the doctor left the room.

"'I found myself gazing at the dazzling blue light, which gradually seemed to penetrate my eyes and pass out of the back of my head,' writes the correspondent.

"'At first I felt a slight burning sensation, which in turn gave way to one of coolness around the eyeballs. This feeling passed, and I felt nothing more out of the ordinary except that a sensation of rest came over me, and my hands, which were trembling slightly before, were perfectly still now. My senses never left me and I plainly heard the doctor entering the room.

"'He took away the blue cloth rapidly, placed the blue electric light farther away, tilted the chair up slightly, and signed to me with the instrument to open my mouth.

"'I felt the instrument grasp the tooth and watched the doctor pull. The next instant I saw the molar before me, not having felt the slightest pain.

"' "Any pain?" asked Dr. Redard, and added quickly, "I should not ask that question, because I saw by your face that you felt nothing." And it was true.

"'There were no after effects, and I found myself seated in the waiting room soon after, chatting pleasantly with the doctor.



## ITEMS OF INTEREST

“ “During my personal experience,” said the doctor, “I found that the blue light has a soothing effect on the optic nerve, and I put the discovery to practical use. I obtained also nearly the same effect with the green light, but I had more failures, and I discarded it for the present method.

“ “I am still continuing my experiments with the different colors,” he added, “which I am convinced, when their real properties are fathomed, will produce a revolution not only in dentistry, but in therapeutics, in which we are so backward.”’ Ocean steamers may one day be propelled by the simple use of red.”

### **Prize Competition.**

The following is forwarded by Dr. Emil Christenson in behalf of the Swedish Dental Society:

“The Swedish Dental Society herewith beg to invite a competition for a popular treatise entitled ‘The Teeth and Their Care,’ which treatise is intended to be spread through the society on a large scale among our people in school and home. The competition is open to all and everybody. The treatise, written in the Swedish language, must not exceed one printed sheet. Each competitive essay should bear a motto or mark, and be accompanied by a sealed envelope with the same motto or mark, which envelope should contain the name and full address of the author. The essay should, besides, have no designation as to its origin, and is to be sent to ‘Jury of the Swedish Dental Society,’ 19 Drothingzatan, Stockholm, by February 28, 1905, at the latest, duly signed and preferably typewritten.

“In the judging of the treatises, it should be considered, in the first place, how far the respective essays are answering the expectations one has a right to have of a really popular treatise on the teeth and their care, intended for the growing-up generation and the common classes of people. Thus it must give a plain and easily understood account of the subject, consequently not being dry or wearisome by details and unnecessary long descriptions. To avoid this, original sketches may be annexed or otherwise well-known good reproductions referred to, while always observing the stipulation made above as to the extent of the pamphlet.

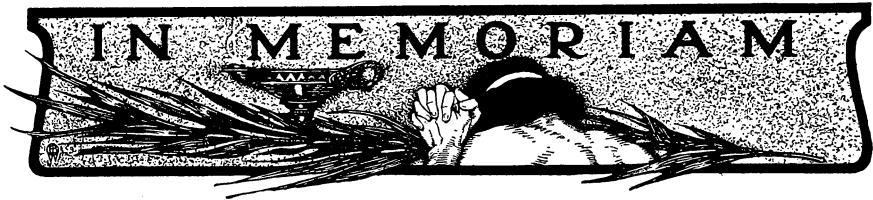
“Leaving all hypothesis out of consideration, the authors should base their statements on strict scientific experience only.

“The awards will be: First prize, kroner 700, or \$185. Second prize, kroner 300, or \$80. The jury being commissioned by the society to judge of and eventually to award the essays will consist of: Messrs. E. Alingvist, A. Lindstrom, professors, with C. Wallis, professor, as deputy; also Messrs. V. Bensow, E. Forberg, D.D.S., and G. Forssman, D.D.S., with Mr. G. Nordin, dentist, as deputy. Awarded essays to be the property of the Swedish Dental Society.

## EDITOR'S CORNER

### An Aseptic Clinic.

During the summer the New Haven Dental Association held a well attended meeting, at which clinics were conducted in a manner which was quite exceptional. All tables used for demonstrating were covered with white oil cloth, and all chairs were supplied with glass table for instruments, and a separate table covered with oil cloth, and two porcelain lined wash bowls with six towels and soap. A man went around and removed the soiled water and kept the bowls filled with clean hot water. The surgical clinics were supplied with aseptic operating tables with the regular hospital aseptic stands with bowls and glass stands.



### Dr. G. H. Chance.

After suffering for four months from internal cancer, Dr. George H. Chance, a pioneer dentist, died September 3 at his home, 415 Second Street, Portland, Ore., where he lived for 25 years. He was born in England 74 years ago, and came to this country about the year 1850. The gold regions of California drew him to the Pacific Coast, and about 1860 he settled in Salem and lived there until 1874, when he came to live in Portland, and made it his home ever since. For a number of years he was a member of the Official Board of Taylor Street Methodist Episcopal Church, of Portland, Ore. He was also a 33d degree A. & A. S. R. Mason. As a dentist he had a large practice, and was very well known and much respected. Dr. Chance left a widow and these children: Mrs. F. A. Kenny, Alameda, Cal.; Miss S. E. Chance, Miss W. E. Chance, Miss Aina B. Chance, Charles H. Chance, of Sumpter, and Dr. Arthur W. Chance.





# BOOK REVIEWS

## Frakturen, Infraktionen und Knickungen der Zähne.

By DR. G. v. WUNSCHHEIM,

Assistant Dental Department of Prof. v. Metnitz, at the general Polyclinic, Vienna.

With 11 Illustrations.

Reprint revised. Vierteljahrsschrift für Zahnheilkunde, 1904. Part. 1. Published by the author, Vienna, 1905.

This is a treatise of some sixty pages, with eleven well drawn illustrations, upon the fracture, dilaceration and flexion of teeth, due to mechanical force. While it has long been known that teeth may suffer serious injury, may be fractured, split and changed in form while in position, by mechanical force, and that teeth so injured may recover, and comfortably continue their normal functions, these conditions have received but little attention from dental writers.

Dr. Wunschheim has gathered and collated many such cases clinically reported, with the observations of various writers upon the subject, and has systematically arranged the data thus obtained in an interesting and instructive form for future reference. He treats the resemblance and the difference between bone and tooth tissue in so far as the repair of fractures is concerned; of the relative liability of the dental organs to this injury; of the various kinds of fracture they may sustain, and of the deformities that may result therefrom at various stages of their growth. That the repair of tooth fracture is not more frequent, the writer states,



is not due to any want of vitality in the tissues, but rather to the fact that a series of favorable conditions is necessary to the healing of a fractured tooth. The position of the fracture must be favorable, and the normal condition of the pulp and the periosteum must not be seriously impaired. He refers, also, to cases where the teeth have suffered change in form without loss of continuity, by mechanical force operating directly or indirectly upon the tissues before complete calcification. The work bears evidence of careful research, is well written, and the illustrations showing microscopic sections of united fractured teeth are especially interesting.

W. H. T.

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### **"Dental Metallurgy," a Manual for the Use of Dental Students and Practitioners.**

By CHARLES J. ESSIG, M.D., D.D.S., and AUGUSTUS KOENIG, B.S., M.D.

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*(Fifth Edition, Revised and Enlarged. Lea Brothers & Co., Philadelphia and New York, 1904.)*

The first text book upon Dental Chemistry and Metallurgy, a well written and useful work by Dr. A. Snowden Piggott, of Baltimore, published 1854, served the needs of the profession for nearly a generation. Dental Metallurgy, by Thomas Fletcher, of Warrington, England, appeared in 1881, and the following year Dr. Essig's work with the same title, written especially for the use of dental students, proved acceptable additions to dental literature. Dr. Essig, by his long experience in a dental laboratory and as a dental practitioner, his scholarship, and his position as a dental teacher, was well qualified for the task, and his little manual has proved valuable as a text book for students, and as a handy reference work for practitioners. By repeated revisions it has been kept fairly well up to date.

This fifth edition has been revised by Dr. Augustus Koenig, who has added much valuable information concerning technical metallurgical operations, and thirty-two new cuts. While this is commendable, and adds to the work, it is to be regretted that in the revision matters which are no longer of value were not omitted. This is especially noticeable in the chapter on amalgams. It should have been entirely rewritten; it is out of date. The tentative formulas there given have been discarded, and are of no interest to the dental student of today. The descriptions and illustrations of Dr. Black's ingenious instruments for testing dental amal-



## ITEMS OF INTEREST

gams are found in the chapter on "Apparatus and Modes of Melting Metals," where they are entirely out of place, and so introduced that their purpose and usefulness will not be understood and appreciated by the average dental student. Alloys for dental amalgam is so important a part of dental metallurgy that it is entitled to a prominent position in a work like this, and should be thoroughly up-to-date. The later and now generally accepted formulas and method of making and preparing dental alloys are not mentioned. All concerning amalgams used for filling teeth should be considered together, and carefully collated, so as to avoid such errors as stated on page 65, that copper amalgam expands, and on page 262, that it contracts more than tin and silver alloys. It is a mistake to cite in a work intended for students impromptu remarks from a society discussion in opposition to conclusions reached by carefully conducted experiments. The student wants to know the latest accepted facts, and has but little interest in the forgotten controversies of the past.

The same criticism applies to the formulas for gold plate and solders. It is quite time to discard all formulas for plate and solder calling for "coin," in professional text books, and to insist that they shall be so stated as to express the fineness either in carats or in thousands, so that it can be seen at a glance. Providing the coin contains the required value of gold or silver, and has the requisite hardness, the coin makers pay little regard to its other components; these are changing and uncertain. The gold coins of the United States are not uniform in color, but vary from different mints and of different dates. Any formula calling for eighteen grains, pennyweights, or parts of pure gold in twenty-four, for either plate or solder, is seen to be eighteen carat without the tedious calculations required to determine the fineness of one reading:

United States Gold Coin (\$60).....64½ dwts.

Pure Silver.....13 dwts.

Such crudeness is out of date in a text book upon dental metallurgy in this year of grace 1904.

The section entitled "Alloys of Gold Employed in Dentistry as Solders," is unsatisfactory. Take for instance formula No. 1, for solder 14 carats fine.

American Gold Coin.....\$10.00

Pure Silver.....4 dwts.

Pure Copper.....2 dwts.

Wherein does this differ from 14 carat plate? It would have been far better to state that gold plate of any carat containing gold, silver and copper only can be used as solder for plate of a higher carat, rather than to give confusing formulas like this. The term solder should be restricted to alloys for uniting plate of the same fineness. (There is no necessity



## BOOK REVIEWS

and no advantage in using on new work solder of a lower carat than the plate.) In revising text books, exactness of expression should always be considered. A text book is a good place to put in practice the changes in nomenclature needed to make our technical terms precise and unmistakable. Let the term "solder" always indicate the presence in the alloy of a metal to reduce its fusing point without reducing its fineness. Several of the formulas for gold solder call for "brass," "fine brass wire," "spelter solder"; these are all at the present time meaningless expressions. Brass may contain anywhere from twenty to forty per cent of zinc; it may also contain lead or aluminum added purposely, and a thousand and one other deleterious and useless ingredients occurring as impurities of its chief components. Fine brass wire is of equally uncertain composition; while of spelter solder there are many different grades on the market, all equally good for the purpose for which they are intended, and equally bad as a component of solder for dental use. As in all these zinc is the essential metal, why not say so? Chemically pure zinc and chemically pure copper should always be used in alloying gold or silver for either plate or solder; the commercial metals contain impurities which render them absolutely unfit for this purpose; they are not now used by careful workmen. This is not noted in the work under review. In treating of zinc as an alloy no distinction is made between its loss by volatilization and oxidization, when used as an alloy for high fusing metals. As a manual on metallurgy it well deserves the place it has acquired as a concise text and reference book. As a manual on *dental* metallurgy, there is need of revising the especial dental part, omitting all that which has become obsolete either in methods or expressions, and making it conform to that which is accepted at the present time.

W. H. T.

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### Principles of Bacteriology.

By A. C. ABBOTT, M.D., Philadelphia, Pa.

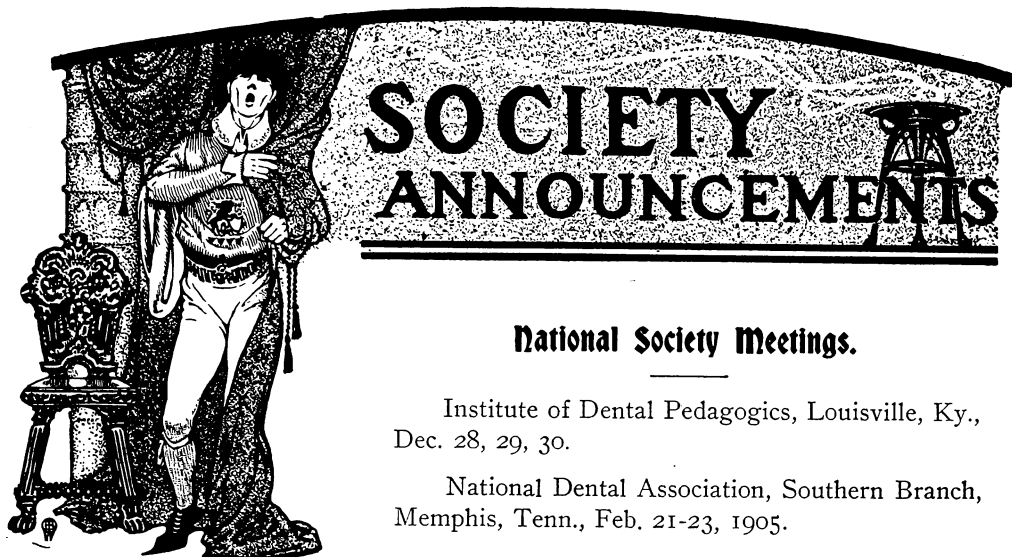
Published by Lea Bros. & Co., Philadelphia, Pa.

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The sixth edition of Abbott's Bacteriology needs but little comment. The work has become a standard, and the present enlarged edition presents simply the advantages of having added to it the latest of facts in the science of bacteriology. Messrs. Lea Brothers are certainly to be congratulated upon the success of their efforts in producing a work which has found a welcome on the shelves of all the laboratories in America and England, and many others on the continent.

J. M. V.





### **National Society Meetings.**

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Institute of Dental Pedagogics, Louisville, Ky.,  
Dec. 28, 29, 30.

National Dental Association, Southern Branch,  
Memphis, Tenn., Feb. 21-23, 1905.

### **State Society Meetings.**

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Delaware State Dental Society, Dec. 7, 1904.

Illinois State Dental Society, Moline, May 9, 10, 11, 1905.

Montana State Dental Society, Butte, Feb. 20, 21, 1905.

Ohio State Dental Society, Columbus, O., Dec. 6, 7, 8.

Wisconsin State Dental Society, Oshkosh, July, 1905.

### **The 36th Anniversary Meeting of the First District Dental Society of the State of New York.**

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The First District Dental Society will celebrate its thirty-sixth anniversary with two great meetings on the 12th and 13th of December. The essayists of these meetings will be: Dr. G. V. Black, of Chicago, and Dr. E. K. Wedelstadt, of St. Paul. Dr. Black will read an exhaustive résumé on the subject of "Extension for Prevention," illustrating his lecture with 125 or more lantern slide pictures. Dr. R. H. Hofheintz will open the discussion. On December 13 Dr. E. K. Wedelstadt will read a paper on "The Packing of Gold in Approximo-Occlusal Cavities in Bicuspids and Molars," illustrating his method with the use of clay in large wooden models of teeth. The discussion of this paper will be opened by Dr. G. V. Black, followed by Dr. R. Ottolengui and Dr. B. Holly Smith. These





## SOCIETY ANNOUNCEMENTS

meetings will be held at the New York Academy of Medicine, No. 17 West Forty-third Street, at 8 o'clock in the evening.

In addition to these meetings the Clinic Committee has arranged for a most interesting clinical exhibition to be held during the afternoon of these days at the Grand Central Palace, Lexington Avenue and Forty-third Street. This programme comprises porcelain work, X-ray, orthodontia, different methods of packing gold, exhibits of different anatomical and histological specimens, etc. Dr. Black will exhibit new instruments for testing the finger power in the handling of operative instruments. Every facility will be afforded to enable the largest number to witness the demonstrations. The entire mornings of both days will be devoted to manufacturers' exhibits, which will be an interesting feature of the programme. All communications pertaining to clinics or exhibits should be addressed to the chairman of the Clinic Committee, Dr. S. L. Goldsmith, 129 East Sixty-ninth street.

The following dental societies have been officially invited: The New York Institute of Stomatology, the New York Odontological Society, the New York Institute of Dental Technique, the Second District Dental Society of the State of New York, the Central Dental Association of Northern New Jersey, the Hartford Dental Society and the New Haven Dental Society.

A cordial invitation is extended to all members of the dental profession, and it is confidently expected that a large number of prominent dentists will be in attendance.

A. M. MERRITT,  
A. G. LANSING,  
F. L. FOSSUM, Chairman,  
Executive Committee.

---

### Union Meeting, Basel, Switzerland.

A Union Meeting will be held in Basel, Switzerland, December 17, 18 and 19, 1904, of the European Advisory Boards Association to the National Association of Dental Faculties, the S. W. Sect. of the Centralverein in Amerika graduierter Docteren der Zahnheilkunde (B.V.), the Swiss Association of American Dentists and the "Zahnärztliche Gesellschaft in Basel," to which members of the American Dental Society of Europe, the International Dental Federation, the Swiss Odontological Society, Paris Dental Club, and other societies will contribute. Programs may be secured by November 15 from the president, Dr. L. C. Bryan, or





## ITEMS OF INTEREST

the secretary, Dr. H. B. Respinger, Basel, Switzerland, to whom notices of intended participation in the meetings should be addressed. A special feature will be made of bench clinics and exhibits of all articles and novelties of interest to dentists. These will be gladly received and given ample accommodations in the Public Buildings of Basel, which have been secured for the meeting. All dentists in affiliation with recognized dental societies are cordially invited to attend. Communications regarding hotel accommodations should be addressed to Dr. Ferdinand P. H. Facklam; clinics and demonstrations to Dr. V. de Trey; exhibits to Dr. Ferdinand Kloetzer; papers to Dr. F. T. Schaer; invitations to Dr. E. Grosshein, all of Basel.

L. C. BRYAN, Pres.

H. B. RESPINGER, Secy.

---

### National Dental Association, Southern Branch.

The eighth annual meeting of the Southern Branch of the National Dental Association will be held February 21-23, 1905, at Memphis, Tenn. Asheville, N. C.

J. A. GORMAN, Cor. Secy.

---

### Ohio State Dental Society.

The thirty-ninth annual meeting of the Ohio State Dental Society will be held at the Great Southern Hotel, Columbus, Ohio, December 6, 7, 8, 1904.

S. D. RUGGLES.

Portsmouth, Ohio.

---

### New York Odontological Society.

The thirty-eighth anniversary meeting of the New York Odontological Society will be held Tuesday, January 17, 1905, at the New York Academy of Medicine, 17 West Forty-third street.

The afternoon will be devoted to an interesting series of clinics, which will be given from two to five.

An important paper on "Porcelain" will be presented at the evening meeting, which will be followed by a collation.

W. D. TRACY, Cor. Sec.

46 West 37th Street, New York, N. Y.



### **Institute of Dental Pedagogics.**

---

Institute of Dental Pedagogics will hold its annual meeting at Louisville, Ky., December 28, 29, 30, 1904.

This has come to be the most important gathering of the year, and no dental teacher or practitioner interested in dental education can afford to miss the session.

H. B. TILESTON, Pres.

W. E. WILLMOTT, Secy.

---

### **Odontological Society of Salt Lake City.**

---

The Odontological Society of Salt Lake City, Utah, at its regular monthly meeting in October, elected the following officers for the ensuing year: President, A. C. Wherry; first vice-president, W. L. Ellerbeck; second vice-president, C. W. Gates; secretary and librarian, F. W. Meakin. E. Van Cott was elected to the Board of Censors.

F. W. MEAKIN, Secy.

---

### **Class '91, N. Y. C. D.**

---

The annual reunion of the class of '91, N. Y. C. D., will be held in New York on January 14, 1905. Members of both classes '90 and '92 are cordially invited to participate. For further information apply to

W. H. McCUTCHEON,  
487 Clinton Ave., Brooklyn.

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### **Colorado State Board of Dental Examiners.**

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The regular semi-annual meeting of the Colorado State Board of Dental Examiners will be held in Denver, December 6, 7 and 8, 1904.

The examination will be both theoretical and practical, and applicants for the examination must be prepared to do such practical work as is required.

All applications must be filed before December 6.

M. S. FRASER, Secy.,  
407 Mack Block, Denver, Colo.





### **New Hampshire State Board of Registration in Dentistry.**

---

The New Hampshire Board of Registration in Dentistry will hold its semi-annual meeting December 13, 14 and 15, 1904, at New City Hotel, Manchester, N. H., for the examination of candidates for registration. Applicants should come prepared with instruments and material to put in one gold and one amalgam filling. So far as possible patients will be furnished by the board.

A. J. SAWYER, Secy.

Manchester, N. H.

---

### **Kentucky State Board of Dental Examiners.**

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The Kentucky State Board of Dental Examiners will meet in Louisville, December 6, for the examination of candidates desiring license to practice dentistry in Kentucky. Application must be made to the secretary fifteen days before examination. Candidates must be graduates of reputable dental colleges.

C. R. SHACKLETTE, Secy.

Louisville, Ky.

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### **California State Board of Dental Examiners.**

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The Board of Dental Examiners of California will hold an examination in San Francisco, commencing on Thursday, December 15, 1904.

San Francisco, Cal.

F. G. BAIRD.

---

### **Northwestern University Dental School Alumni Association.**

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Alumni Association Northwestern University Dental School will hold its annual clinic Tuesday, January 17, 1905, at University Building, corner Lake and Dearborn streets, Chicago, Ill. All members of the profession are cordially invited to attend. Exhibitors may procure space by addressing Dr. C. R. E. Koch, as above.

F. W. GEITIRO, President.

G. B. MACFARLANE, Sec'y.

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December  
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R. Ottolengui, M.D.S.  
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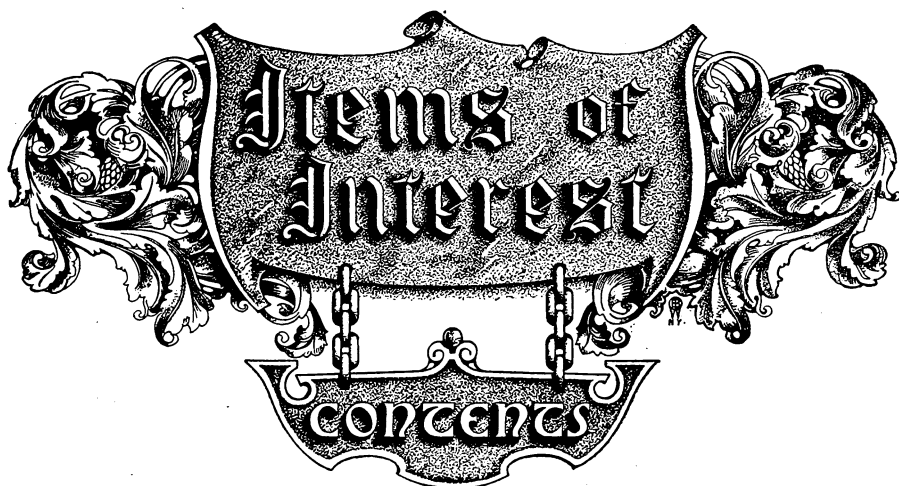
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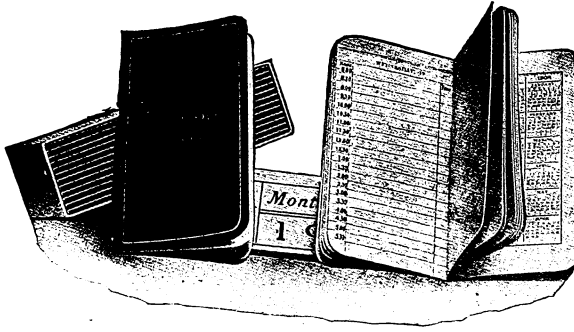


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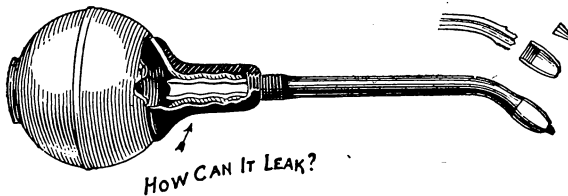
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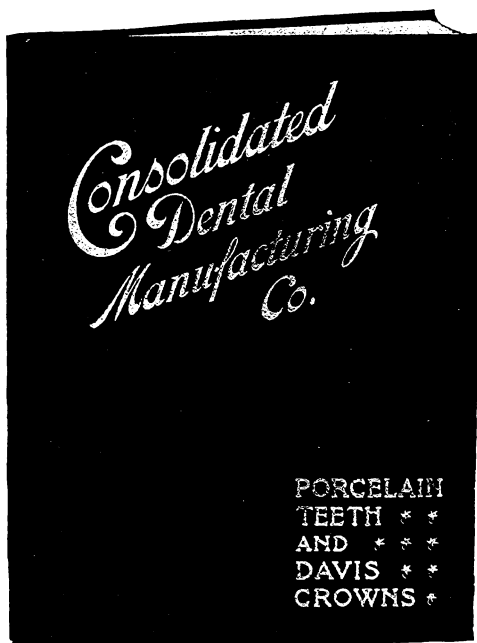


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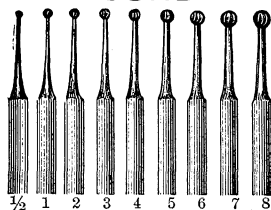
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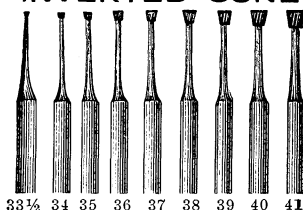


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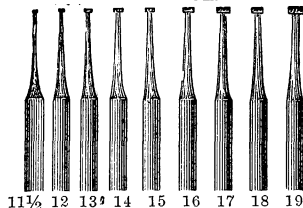
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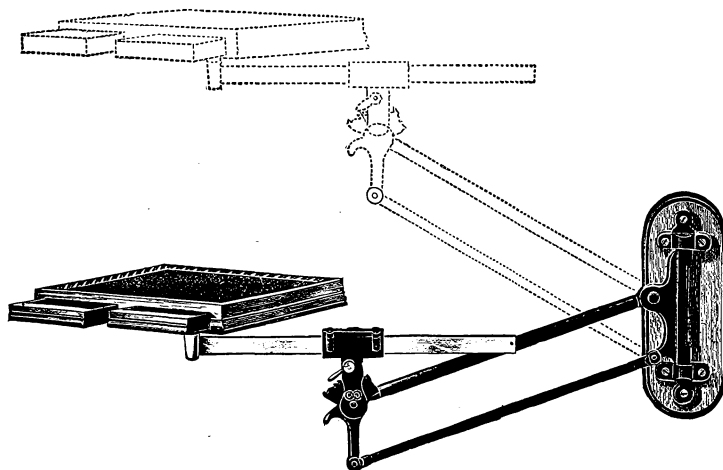
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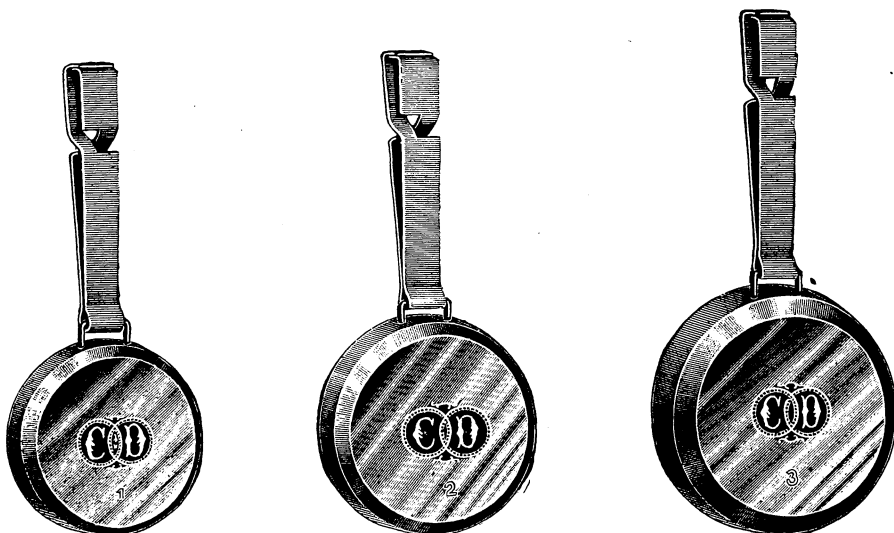
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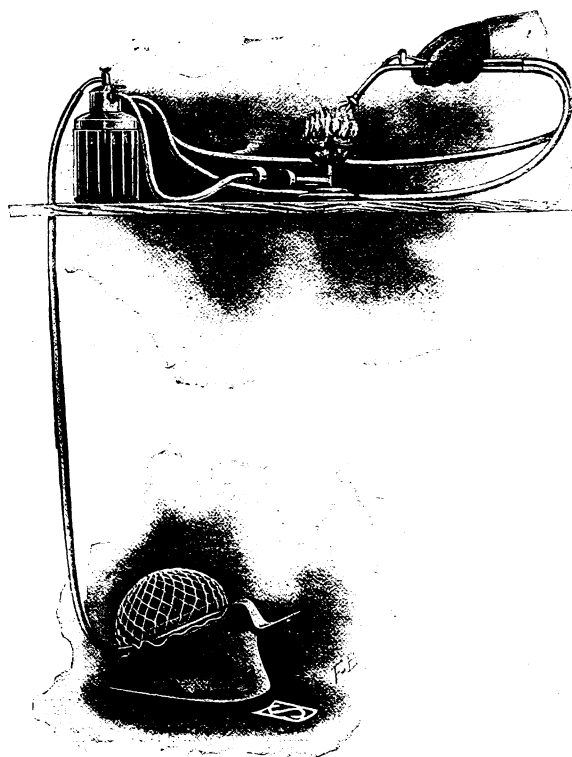


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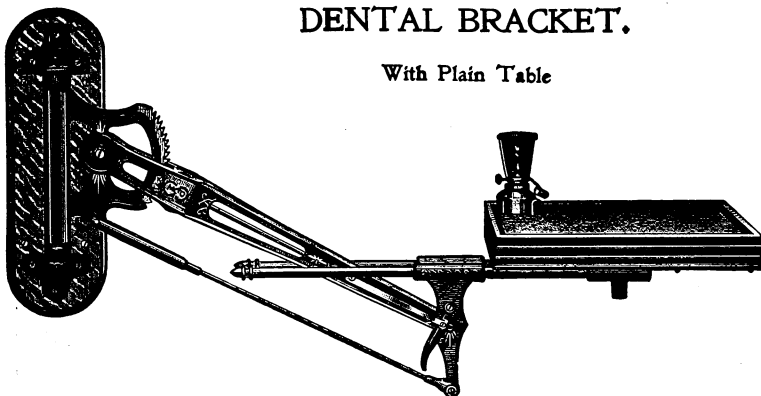
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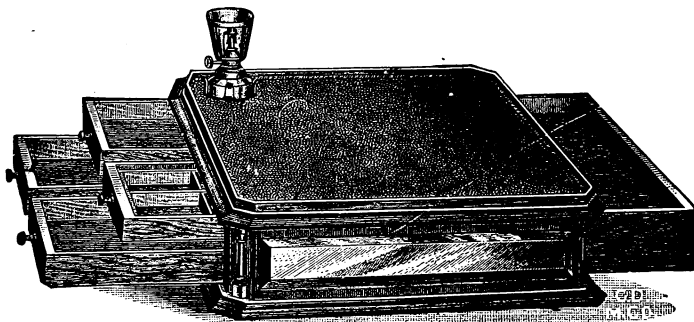


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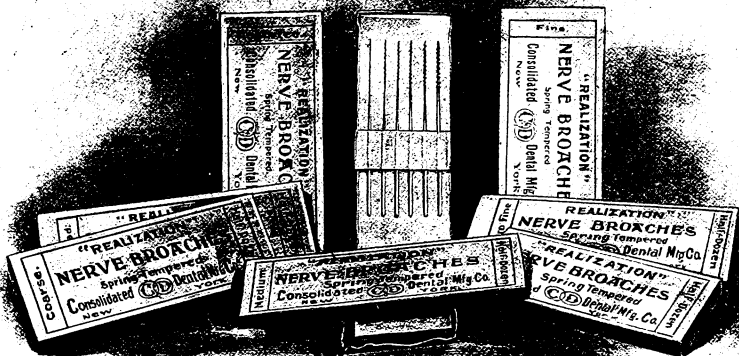
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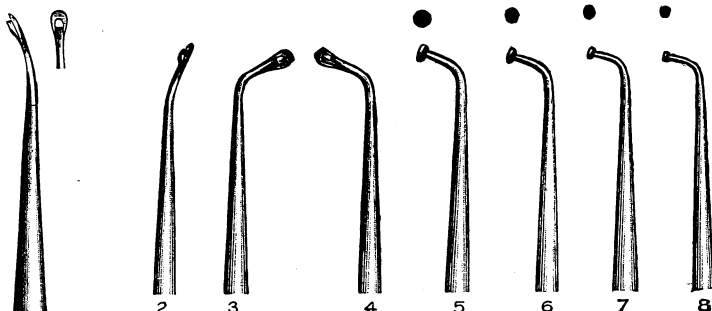
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NEW YORK, U. S. A.

**BRANCHES** { Chicago, Ill. Philadelphia, Pa. Brooklyn, N. Y. New York.  
Boston, Mass. Detroit, Mich. Buffalo, N. Y. Cleveland, O.



## INLAY BURNISHERS

Nos. 1 and 2, right and left, are designed for burnishing the cervical margin of upper molars and bicuspid.

Nos. 3 and 4, right and left, are used for similar purposes on the lower molars and bicuspid.

Nos. 5, 6, 7 and 8 are adapted for the interior and margins of all cavities. The smaller sizes are also designed for burnishing the lingual and labial walls of cavities in molars and bicuspid. They have flattened heads which offer the least interference in intricate work.

The very best grade of hardened steel is used in these instruments and they will maintain their shape under the most severe pressure.

They have octagon handles, specially finished, for securing a firm grip.

Price . . . \$ .55 each  
" per set, 4.40

### Consolidated Dental Mfg. Co.

New York, U. S. A.

#### Branches:

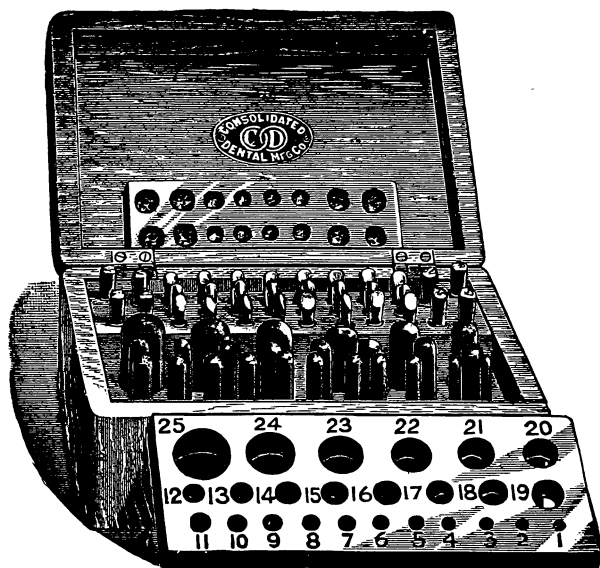
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# CROWNING SYSTEM

STYLE "A"

An Improved Apparatus for Making  
Seamless Contour Crowns

No. 625a



CROWNING SYSTEM, \$15.00

SHAPING HAMMER EXTRA, \$1.00

The usual draw plate, punches and die plate are parts of this system, but besides these there are 32 metal teeth furnished which are used to shape the crown after it has been drawn on the steel draw plate. By means of these teeth crowns can be made for the Central, Lateral and Canine teeth. This feature, which is not a part of any other system, makes it superior to all.

The system is put up in a finely finished oak case.

By following the instructions which we furnish with each outfit, any dentist can, with a little practice, produce a perfect crown; little or no skill being required in its use.

We manufacture a small shaping hammer with a round head especially adapted for use in connection with shaping crowns over the metal teeth in this system.

# Crescent Alloy

has  
grown into  
such large usage  
in the dental profession  
because of the purity of its ingredients  
and the perfection of its working qualities.

It is prepared scientifically to produce conditions most desirable in an alloy. It sets moderately, allowing sufficient opportunity for manipulation. Its purity is absolute guard against discoloration of the teeth. It is very strong with ample edge strength, and its density will resist all the wear of mastication.

In setting there is absolutely no shrinkage and the use of this alloy insures a permanent filling. It is wise economy to buy

# Crescent Alloy

Price, \$1.50 per ounce, in shavings.





# German Fused Oxide

## CEMENT

For Crown and Bridge Work



PRICE, \$1.00 Per Package

**T**HIS Cement adds to the perfection of your most delicate work and assists you in your particular and exacting cases. It sets moderately fast, and, with its glue-like adhesiveness and ease of manipulation, is the most reliable Cement ever made.

The liquid does not crystallize and in mixing German Fused Oxide is very smooth and never crumbles.

Saliva and acids have no deteriorating effects upon it whatever and it never softens or dissolves, being absolutely impervious.

It does not shrink and always retains its adhesiveness. This property is especially valuable in exposed work on regulating appliances.

For setting Porcelain Crowns a better working Cement cannot be obtained.

Consolidated  Dental Mfg. Co.

# Prices of

# Pinless Teeth

## And Other C. D. M. Co. Porcelain Teeth

### COMBINATION SETS

of Pinless Bicuspids and Molars with Platinum Pin Incisors and Canines.

	Per set.
Per set of 14.....	\$1.32
In \$25.00 lots.....	1.25
In \$50.00 lots.....	1.18
In \$100.00 lots .....	1.09
In \$300.00 lots .....	1.00

**Pinless Teeth, Sold in Sets of 4's or 8's only, at 6 Cts. per Tooth.**

#### PLAIN TEETH, HEADED PINS.

Plain Vulcanite . . . . .

#### GUM TEETH, HEADED PINS.

Gum Sections . . . . .

Gum Vulcanite Single . . . . .

#### GUM TEETH, SHORT PINS.

Gum Plate . . . . .

#### PLAIN TEETH, LONG PINS (FLAT BACKS).

Plain Teeth . . . . .

Plain Veneers, Bicuspids and Molars . . . . .

Plain Saddle-Backs, Bicuspids and Molars . . . . .

Plain Plate Bicuspids and Molars . . . . .

#### CROWNS.

Dasiv, with pin . . . . . .40

Case of 100, \$35.00

#### MISCELLANEOUS.

	Each.		Each.
Colored Teeth for Exhibition Sets .16		Miniature Sets, Unmounted.....	\$1.00
Miniature Sets ..... .50		Cavities Drilled in Teeth .....	.25

These prices, both retail as well as quantity rates, are subject to our regular SPOT CASH discounts, according to quantity.

Order our teeth by any shade guide, and please specify on order which is used.

## Consolidated Dental Mfg. Co.

New York, U. S. A.

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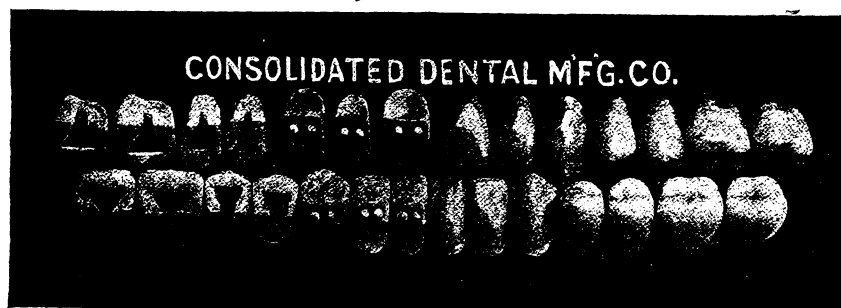
New York, N. Y.  
Cleveland, O.

Detroit, Mich.  
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# Pinless Teeth

**Combination Sets** of Pinless Bicusps and Molars with  
Platinum Pin Incisors and Canines.

(PATENTED.)



Combination Set Showing Sectional View of Pinless Teeth.

The practicability, the adaptability and the economy of Pinless Teeth has led to a growing demand for them by the profession which we have met with the most successful set of diatoric molds ever produced. The characteristic qualities of our Teeth are likewise among the attractive features of our Diatorics, the elimination of the platinum pin being the principal element in the reduction of the cost. The unique, simple, efficient and practical shape of the recess is the most important and wholly convincing factor of their success.

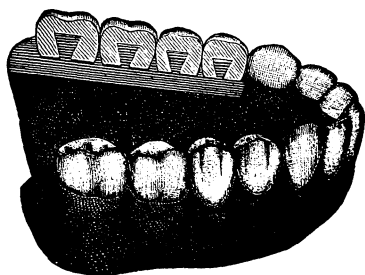


Fig. 1.

Sectional view of pinless bicusps and molars with palatal surfaces ground off showing how securely the wedge-like shaft of vulcanite attaches them to the plate.

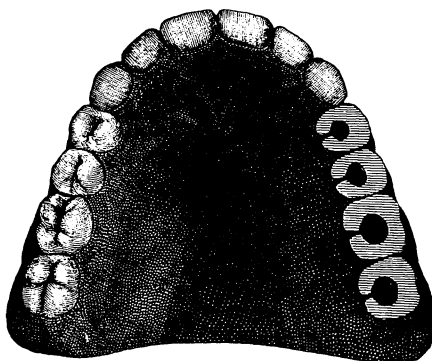


Fig. 2.

Sectional view of pinless bicusps and molars with occlusal surface and walls ground off close to plate, showing section of recess and the small vent which affords additional attachment.

Our stock now comprises twenty-two molds, to which we are adding as rapidly as our mold-cutters can perfect new patterns.

Already, the thousands of our diatorics, which have been successfully used, is the most convincing evidence of the genuine satisfaction they are bound to give.

# Pinless Teeth

**H**ERETOFORE in the production of teeth without pins, makers have been limited to dove-tails and cavities with parallel walls. In our tooth we have adopted a cavity with a perfect under cut (Fig. 3), resembling in shape a cone with the base toward the grinding surface of the tooth and the walls contracting toward the neck. The rubber when packed into it takes this shape, and the base being of larger diameter, the vulcanite is practically wedged against the neck where the cavity is of smaller diameter. The tooth and rubber, therefore, become absolutely inseparable except by breakage. This is guarded against by constructing the cavity sufficiently large to receive a generous core of rubber, while the walls of the tooth are of substantial thickness and will even allow of a small amount of grinding. The absolute impossibility of detaching the tooth from the plate is so plainly seen in the illustration that further explanation is not necessary. It is readily seen that the cavity itself is the lock,



Fig. 3.



Fig. 4.

and the attachment depends on no supplementary lug; under cut or other reinforcement. The rubber is not only locked, but vulcanized to the tooth. In the palatal wall of the tooth is a slot leading into the cavity through which the air, moisture and surplus rubber escapes in packing (Fig. 4). This insures perfect flow of the rubber into every part of the recess and besides affords additional, though not essential, attachment. A distinct advantage is the fact that this slot is entirely hidden from view when the denture is in the mouth. That portion of the tooth known as the ridge-lap (Fig. 4) is nicely concaved from the cervix toward the occlusal surface and easily adapts itself to the curve of the alveolar ridge. It can be ground to suit the same without impairing or weakening the tooth structure or security of attachment.

# Pinless Teeth



IN the absence of pins we are enabled to make improvements in that part of the tooth usually occupied by them (termed the heel), giving the tooth a contour, which on the palatal walls closely resembles the natural set. A greater amount of porcelain being exposed on the side of the plate with which the tongue comes in contact, gives to the wearer a more comfortable and natural feeling than if vulcanite were used entirely.

It is a well-known fact that in artificial dentures the amount of strain on the posterior teeth is very slight compared with that on the anterior set. The necessity



Fig. 5.



Fig. 6.

of placing pins in a bicuspid in the same position as in an incisor does not exist. The point of resistance is different in the two teeth. While there is a tremendous leverage exerted by the anterior incisors and canines on an upper denture at the point where the pins are placed in the anterior teeth (Fig. 5), it is hardly noticeable in the posterior set, where instead of leverage, there is direct pressure on the occluding surface slightly relieved by the sliding movement of the teeth in mastication (Fig. 6). We have therefore confined ourselves to the manufacture of diatorics in bicuspid and molars entirely, believing that nothing superior to the platinum pin tooth is practicable for incisors and canines.

*When ordering pinless teeth, use our new shade-guide. If other guide is used please state name of same on your order.*

**for Sale by all Leading Dental Dealers**

**Manufactured by**

**Consolidated Dental Mfg. Co.**

**New York, U. S. A.**

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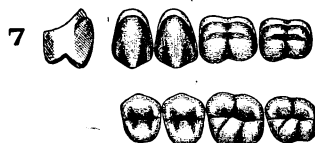
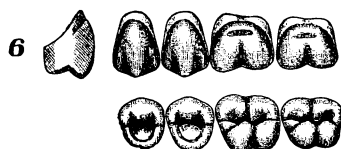
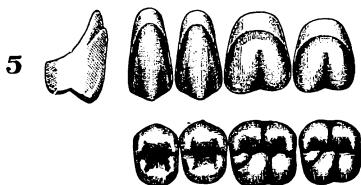
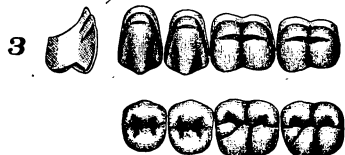
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# Pinless Teeth

Bicuspsids and Molars

UPPERS



# Pinless Teeth

Bicusps and Molars

LOWERS



# FOR PAINLESS EXTRACTION OF TEETH

and other  
operations where a  
safe obtundent is required

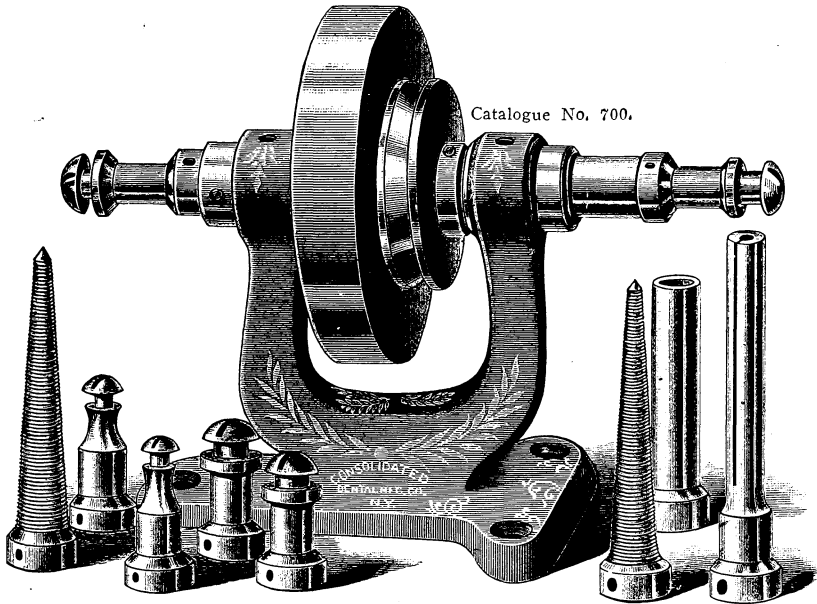
# USE DESENSITOR

Price 1 oz., \$1.00; 2 oz., \$2.00; 6 oz., \$5.00

CONSOLIDATED DENTAL MANUFACTURING CO.



## THE TRUE RUNNING LATHE-HEAD



Catalogue No. 700.

This lathe is one of the finest pieces of machinery which can be produced in a modern factory. The best selected material is used throughout and skilled workmanship has brought its running qualities and finish to the height of perfection. The extra heavy balance wheel insures true, firm revolution, not surpassed in ball-bearing machinery. The adjustable bearings are of bronze, which is used in the best implements of this character. The shaft is turned out of fine steel; it may be easily oiled without smearing. A full equipment of ten chucks to rigidly hold burs, discs and brush wheels completes the outfit. Small burs may be fastened directly in the end of the spindle, for which it is specially designed. **PRICE \$8.50.**

**CONSOLIDATED DENTAL MFG. CO.**

## Don't Burn Your Fingers

**FLASK  
TONGS**



These tongs lift the flask out of the vulcanizer neatly, without grappling or disturbance of the contents. They are 17 inches long, and useful for many other purposes in your laboratory.

**Price 50 cents per pair**

## Thin Carborundum Disks

Have you ever compared the lasting and wearing properties of Carborundum Disks? Try ours and you will be surprised and pleased to find how long they last. That is because the Carborundum is not adulterated with too much rubber. There is rubber in them of course, but only in the necessary proportions.

The high grade of Carborundum and the density in which it is used, afford an edge-cutting disk that cuts dentine and porcelain rapidly and economically and with a very small percentage of breakage if properly used.

Price, 5c. each 60c. a dozen

## SOMETHING NEW

# Crescent Standard Gold Foil

A tough but easily manipulated gold

Specially Prepared for Low Fusing Porcelain Inlay Work

MADE IN No. 30 AND No. 40 THICKNESS

Its adaptability in forming a perfect matrix cannot be excelled, and it will hold its shape under difficult conditions

THIS INLAY GOLD IS PUT UP IN 1-8 Oz. BOOKS

PRICE, 1-8 Oz., \$4.25; 1 Oz., \$32.00.

CONSOLIDATED DENTAL MFG. CO.

# THE NEW C. D. M. CO. HANDPIECE

We are much pleased to announce the success with which the introduction of this handpiece has been favored.

Hundreds are in practical use and under the most severe tests they have met with unqualified approval and commendation.

It is a modern handpiece; in its design and construction ingenious improvements have been adopted, while we have the advantage of avoiding the defects of other styles.

The automatic bur-fastening is an inflexible lock and absolutely true.

It may be lubricated easily and the casing prevents leakage of oil.

The parts will not work loose or rattle; the bearings are accurately balanced, preventing sliding and loss of power.

"Watch-work" best expresses the character of its construction.

The steel used is of selected superior quality in which wear of the working parts is reduced to a minimum.

In strength, accuracy, light running and simplicity, it is an artistic piece of mechanism, and for practical use a more serviceable handpiece has not been devised.

**Price \$9.00**

## Consolidated Dental Mfg. Co.

NEW YORK, U. S. A.

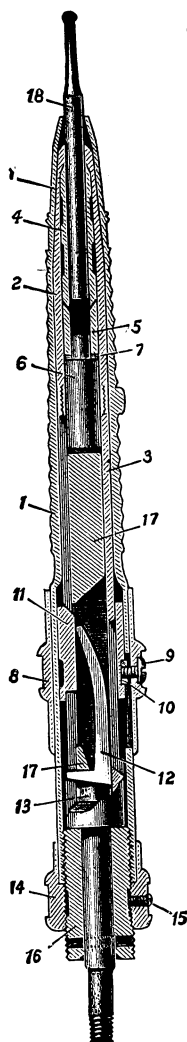
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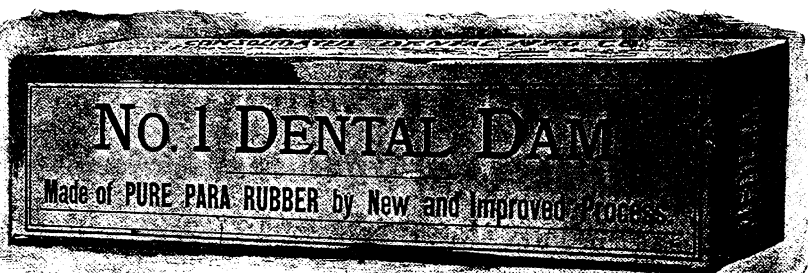
Philadelphia, Pa.  
Detroit, Mich.

Brooklyn, N. Y.  
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## RUBBER DAM



### ***Rubber for Dental Use is a Specialty***

of the Consolidated Dental Mfg. Co.

The special care given to the manufacture of our Rubber Dam has given it qualities of more than ordinary worth and superior to those found in other Rubber Dam. Its exceptional strength, uniformity of texture, lack of repulsive odor and lasting qualities are features of exceptional merit which have placed this Dam in the class of our acknowledged and superior rubber specialties.

Put up in rolls five, six or nine inches wide. The six-inch roll is always sent unless the other sizes are specified; three styles, thin, medium and thick.

**PRICE \$1.00 PER ROLL.**

**CONSOLIDATED DENTAL MANUFACTURING COMPANY**

## “The Filling of Teeth With Porcelain”

By **WALTER WOLFGANG BRUCK**

Instructor in the Dental Institute of the Royal University of Breslau

A manual for the beginner. A guide for the experienced.

### **The Quickest Way to Learn Porcelain Filling Properly**

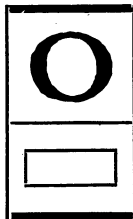
It is a comprehensive elaboration of the Jenkins system and every condition presented in the application of this rapidly growing art is vividly set forth.

It contains 68 pages and 116 illustrations.

Handsomely bound in cloth—**Price 75 cents, postpaid.**

**CONSOLIDATED DENTAL MFG. CO., Publishers, NEW YORK**

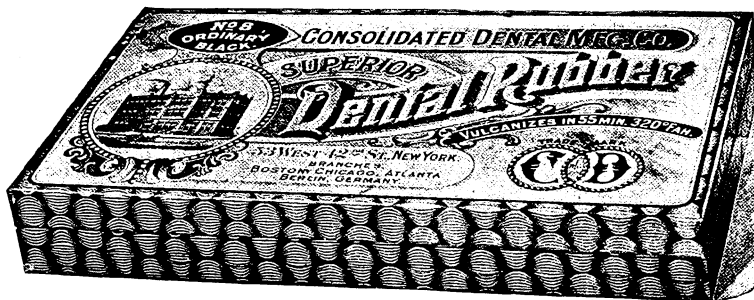
# Dental Rubber



ONE OF THE SPECIALTIES of our business is Dental Rubber, and, in every style in which Rubber is made for dental use, we manufacture the highest grade. "Perfection" Pink Rubber and our Rubber Dam have been unquestionable successes, and the manufacture of all our other Rubbers is attended with no less care than given to them.

Our Vulcanite Rubbers are well known for their true and unvarying color and their high quality and strength. For plates and all the other uses of vulcanite rubber, a more serviceable and better working material cannot be obtained.

We make the following varieties of colors as indicated below.



No. 578.

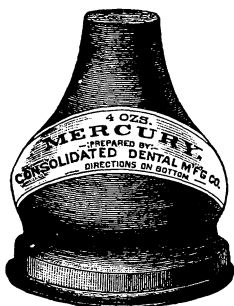
No. 1. Light Orange	No. 5. Mottled (Dark Red)	No. 10. Medium Pink
No. 2. Medium Orange	No. 6. Maroon	No. 11. Dark Pink
No. 3. Dark Orange	No. 7. Jet Black	No. 12. Weighted (Heavy)
No. 4. Mottled (Light Red)	No. 8. Ordinary Black	No. 13. Weighted (Light)
	No. 9. Light Pink	

## PRICES

Nos. 1, 2, 3, 4, 5, 6, 7, 8.....	per pound, \$2.00
Nos. 12 and 13.....	" 3.00
Nos. 9, 10 and 11.....	" 4.50
Perfection Pink.....	" 6.00

— If sent by Mail, 16 cents PER POUND extra to pay postage —

# Chemically Pure Mercury



In Sealed Cones, 4 oz.,  
50c. each

It is impossible to obtain desirable results with mercury in dental work unless the carefully purified and re-distilled article is used. Impurities cannot be detected by the dentist until it is too late, and cheap, spurious mercury can easily be substituted by the dealer. Ordinary mercury will spoil the working qualities of the best alloy; you can rely upon always getting the absolutely pure article if you buy mercury put up under the label of the

## CONSOLIDATED DENTAL MFG. CO.

**Insist upon getting our brand from your dealer**

# CONSOLIDATED Dental TEMPORARY M F G. STOPPING C O. 'S

*For Filling Nerve Canals, Retaining Medicaments in the Treatment of Teeth, and in all cases where a Temporary Filling is desired.*

This stopping does not leak. It is rendered plastic at a very low degree of heat. It can be used with satisfactory results in operations quite close to the pulp. As a Trial Filling for Treated Teeth, it will be found superior to many others prepared for this purpose.

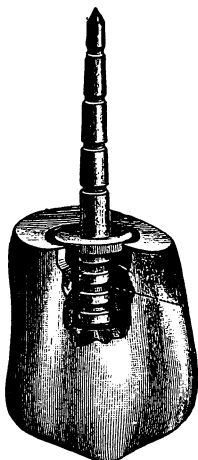
Directions for use with each package.

Put up in three styles: PINK, WHITE and ASSORTED.

**Price per Package, 30 Cents**

# The Davis Crown

...PATENTED...



This is a loose-pin crown with a countersunk rim upon which the shoulder of the pin rests, the shank extending down into the center of the crown. The sides of the cavity for the reception of the pin are grooved to allow for the accommodation of the cement and prevent turning of the crown. To doubly prevent the turning of the crown, the pin is flattened on one side. Both the crown and root sections of the pin are so fashioned. A series of grooves encircles the entire length of the pin insuring firm attachment to crown and root. So firmly does the pin imbed itself in the cement that it is almost impossible to withdraw it from the crown without breaking the porcelain.

The advantages claimed for the crown are as follows: The neck of the crown can be ground quickly and easily to fit any root, as there is no fixed pin in the tooth to interfere with the grinding wheel. Every dentist knows the difficulties encountered in fitting the porcelain crown when the pin is baked into the crown; this annoyance is entirely avoided in using the Davis Crown.

A repair can be made with ease, as it does not involve the laborious removal of the pin from the root before the crown can be attached. With the Davis Crown, it is only necessary to cement the crown to the pin remaining in the root.

The Davis Crown is wonderfully translucent and lifelike in all lights and the absence of gold backings, etc., avoids the shadow which destroys the natural appearance in Richmond and other metal or porcelain-backed crowns. It remains the same in the mouth as when matched, and its great and distinguishing feature is its lifelike appearance.

Very little cutting of dentine is necessary, as the great strength and stiffness of the metal allows the use of a comparatively small pin.

Regardless of the amount of grinding, Davis Crowns take a high polish very quickly by the use of a little putty powder on a felt wheel.

The adaptability of this crown has given it a wide range of application and it has proven very popular in bridge work.

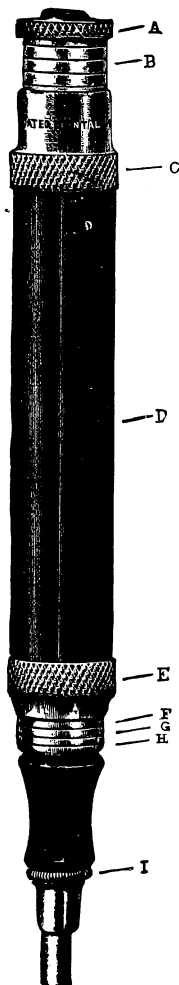
We make a large variety of forms and sizes in centrals, laterals, canines and bicusps. A very good assortment of 100 different styles and shades is put up in a mahogany case.

Price, 40c. each; \$35.00 per hundred.

*For sale by all leading dental dealers.*

# The "PERFECT" Automatic Mallet

HAVING A VARIABLE STROKE  
WITH A VISIBLE ADJUSTMENT



The movement of the socket piece of this instrument may be varied, and the fall of its hammer may thereby be adjusted to either one-twelfth, one-eighth or one-sixth of an inch, at the pleasure of the operator. The parts are rigidly held, when adjusted, by the knurled ferrule E. The adjustment of the instrument is shown by the scores F, G, H. If F is barely in sight at the edge of the ferrule E, the instrument will have its longest stroke, and the hammer will be lifted one-sixth of an inch. To lessen the lift of the hammer, loosen the ferrule E from its bearing against the tubular portion, D, grasp the smaller section at I, and screw it into the section D until one of the scores G, H, is brought to the edge of F. Then tighten E against D.

By screwing the smaller section of the case, I, in or out a little, the amount of "slack" or distance which the spring catch passes by the hammer catch to insure its engagement, can be adjusted. In this instrument, the "slack" can be made more or less, to suit the ideas of its user.

The force of the spring which actuates the hammer is regulated by the screw cap A, which is screwed into the section D to increase the force of the blows. It is held securely, when adjusted by the knurled ferrule C; the force of the blow being estimated by the number of the scores B which are exposed. The more of them there are in sight, the lighter will be the blow.

The shank is fitted to take either cone socket or automatic plugger points.

The workmanship and finish of "Perfect" Mallet is what its name implies. The outer casing is of hard rubber, and the metal parts of the casing are nickel plated.

Price, \$5.00

Consolidated Dental Mfg. Co.



JUST ISSUED.

# THE PRINCIPLES AND PRACTICE OF CROWNING TEETH

By **HART J. GOSLEE, D.D.S.,**

Professor of Prosthetic Dentistry, Chicago College of Dental Surgery.

This is the most comprehensive and detailed consideration of the subject yet presented to the profession, and it is a book that should find a place in every dental library.—*The Dental Review.*

The author gets right down with the man who knows nothing and proceeds to teach him from the bottom up, thus the book will be found of great value to the student, and those dentists wishing to perfect themselves in crown work of to-day. The book is neatly gotten up, of large, clear type, and is illustrated in a way that helps the understanding by fully explaining the text. We cannot commend the book too highly for its practical teachings.—*The Texas Dental Journal.*

Both to the dental student and practitioner it can be cordially and unreservedly commended as a text book second to none hitherto published upon the same subject.—*The Dental Brief.*

In this volume Dr. Goslee, in a particularly easy, graceful and entertaining way, takes up the subject of crowning teeth, and carries it along from its primitive introduction to the present. One of the most meritorious features of the work is, that practically everything which is considered by the author is made the subject of illustrations. Thus the "pivot tooth," the first crown of record, described in Fouchard's work, published in 1728, is very concisely illustrated; and so on throughout the whole volume, the various methods are practically shown by illustration. Chapter III. is devoted exclusively to soldering. It is unnecessary for THE BUR to call its readers' attention to the fact that Dr. Goslee is a master of the art of soldering. A careful perusal of this volume impresses one with its exhaustiveness, its thoroughness and its conciseness, and withal, by the extreme modesty of the author, who avoids, to a remarkable degree, injecting his personality into his work.—*The Bur.*

**APPROVED AS A TEXT BOOK BY THE NATIONAL  
ASSOCIATION OF DENTAL FACULTIES.**

**BOUND IN CLOTH, 459 ILLUSTRATIONS.  
PRICE \$3.00.**

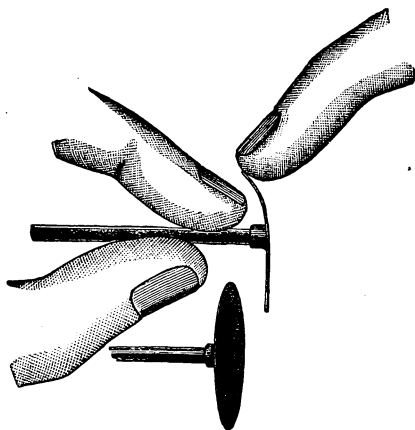
**Consolidated Dental Mfg. Co.**

No. 64.

## LEAMING'S

### "VULCAN" CARBORUNDUM AND CORUNDUM WHEELS DISKS AND POINTS.

FOR PLUG-FINISHING AND BRIDGE-WORKING.



No. 480.

These Wheels are made by a new process, rendering them very sharp and tough. They are practically unbreakable, and do not become gummed like ordinary corundum. The character of the binding material makes them so tough as to allow of remarkable thinness all the way through to the mandrel, thus rendering their use possible in places inaccessible with the old-fashioned wheels. Many operators use them as a substitute for the diamond, as they readily cut the enamel; and they can be used for preparing cavities in porcelain teeth.

Each wheel is trued and securely mounted on plain mandrel for the dental engine while in the mould, and is guaranteed to run absolutely true.

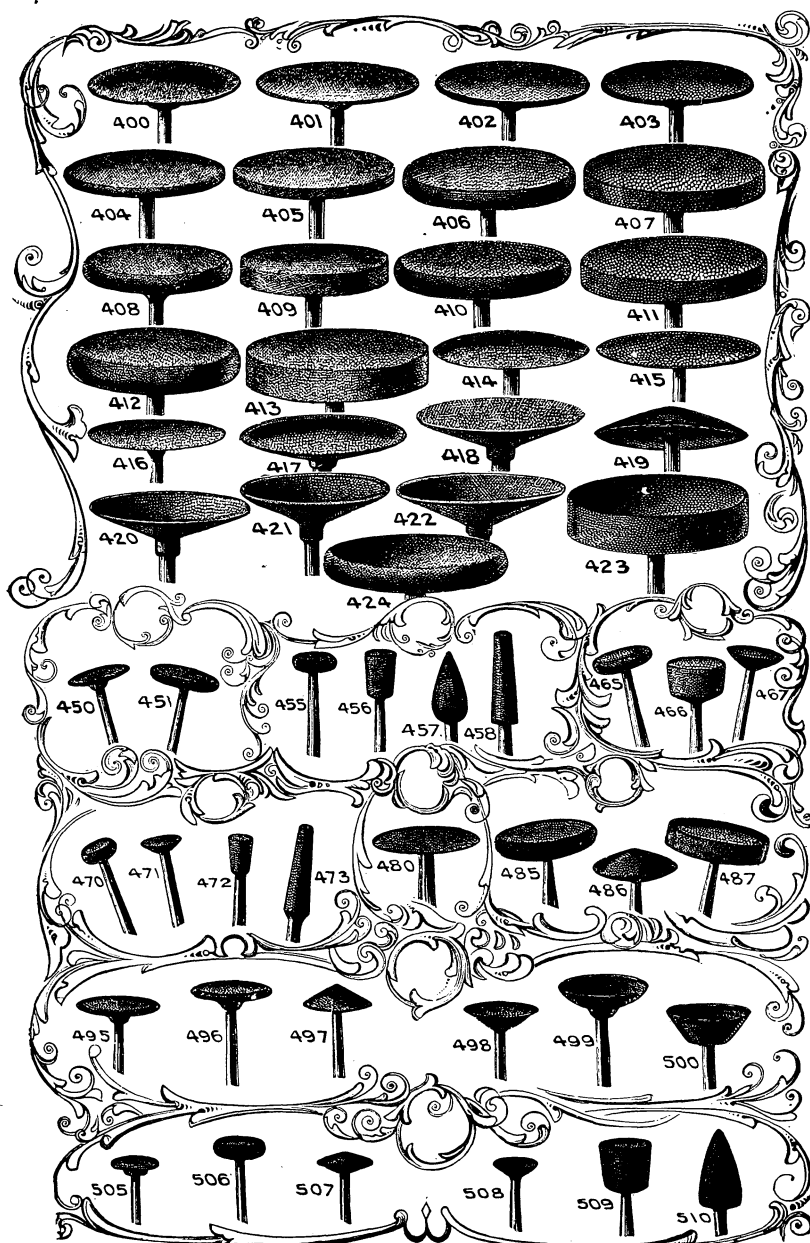
Attention is particularly called to No. 480 shown above. It is very thin and flexible, but tough and will bear a hard push edgewise. Intended for separating and polishing.

The Vulcan Disks and Thin Wheels can be had "Safe-sided" if desired; and will be furnished either side smooth, as called for. Order by number.

PRICE, PER DOZEN,	-	-	-	-	\$2.50
" EACH,	-	-	-	-	.25

**CONSOLIDATED DENTAL MANUFACTURING CO.**  
New York, U. S. A.

# LEAMING'S "VULCAN" CARBORUNDUM AND CORUNDUM WHEELS DISKS AND POINTS.



**The Best Antiseptic for a Dentist's Prescription**

# LISTERINE

## **A true prophylactic**

Listerine exercises an inhibitory ac-  
tion upon the acid-forming bacteria  
of the mouth, and thus maintains  
the alkaline condition so necessary  
for the welfare of the teeth.

**"THE DENTIST'S PATIENT".** An interesting little brochure on the care of the teeth, will be forwarded upon request, together with a new pamphlet of 32 quarto pages embodying:

**"LISTERINE UNDER THE MICROSCOPE".** A tabulated exhibit of the action of Listerine upon inert laboratory compounds.

**"COMPARATIVE VALUE OF CERTAIN ANTISEPTICS".** An interesting showing of the comparative value and availability of various antiseptics in the treatment of diseases of the oral cavity.

**"EXPERIMENTAL RESEARCHES".** A report by members of the Association of Analytical Chemists of the Pasteur Institute, Paris, concerning the antiseptic action of Listerine.

## **LAMBERT PHARMACAL CO.**

## **SAINT LOUIS, U. S. A.**

*Be assured of genuine Listerine by purchasing an original package.*

# WANTS. FOR SALE ETC.

**NOTE.**—Rate for advertising in this department of **ITEMS OF INTEREST** is ten cents per word including captions, "Wanted," "For Sale," etc., and address. Initials charged as words. Rate for agency advertisements is twenty cents per word. Advertisements should reach us by the 15th of the month to insure insertion in the following month's issue, and are payable in advance.  
CONSOLIDATED DENTAL MFG. CO., Publishers, 130 Washington Place, New York, N. Y.

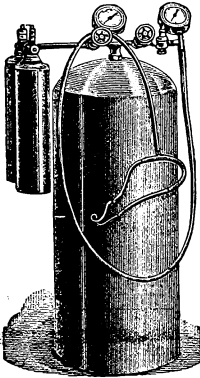
- 4001—**WANTED**—Skilful operator, also mechanical man, registered in New York. State age, salary, experience. Address "BUSINESS," care "Items of Interest," No. 130 Washington Place, New York.
- 4002—**FOR SALE**—Office building and practice in one of the best growing towns in Southern California; 65 miles from Los Angeles. Good crown and bridge practice. Address A. W. BERRY, No. 300 Braly Building, Los Angeles, Cal.
- 4003—**FOR SALE**—\$3,000 W. Va. oil town practice; furniture and fixtures for \$800; \$500 cash. V. N. JONES, Sistersville, W. Va.
- 4004—**WANTED**—Energetic dentists to demonstrate the Myers Dental Obtunder. Liberal compensation. THE MYERS DENTAL OBTUNDER CO., Schofield Building, Cleveland, O.
- 4005—**FOR SALE**—\$4,000 cash practice in Chicago, with long lease, worth \$200. At invoice, about \$500. Will introduce purchaser. Address "RETIRED," care "Items of Interest," No. 130 Washington Place, New York.
- 4006—**FOR SALE**—Office in Michigan doing first-class advertising business; good opening for two good hustlers; going East. Address "No. 4006," care "Items of Interest," No. 130 Washington Place, New York.
- 4007—**FOR SALE**—Fine cash practice and outfit in Philadelphia, cheap. Will introduce purchaser. Cause, ill health. Address CONSOLIDATED DENTAL MFG. COMPANY, No. 1318 Real Estate Trust Building, Philadelphia.
- 4008—Good all around man, must have office experience. Good salary to right man. Address, DR. S. ASHBROOK, Washington, Pa., Murdech Building.
- 4009—**FOR SALE**—Dental practice, two operating rooms and laboratory, completely furnished; rent reasonable; good locality; well established. No. 5715 Main Street, Germantown, Philadelphia.
- 4010—**WANTED**—Dentist with good business ability, living, or willing to live, in Chicago, who can devote part of his time to representing us there. Must be willing to buy the stock-holdings, amounting to about \$3,000. Good investment for the right man. Investigate. CONSOLIDATED DENTAL MFG. COMPANY, Chicago.
- 4011—**FOR SALE**—Elegantly furnished and well-established office; best location and practice; town of 5,000; hour's run Chicago. Show books for results; reasonable. Don't answer unless you mean business. Address, "HAMBE," care Consolidated Dental Mfg. Company, Chicago.
- 4012—Practices bought and sold. DENTAL TRANSFER BUREAU, No. 316 Stevens Building, Detroit, Mich.
- 4013—**WANTED**—Mechanical dentist in Baltimore, Md. Must have had some experience in operating. Registration unnecessary, but must be a man of experience and good habits. State length of time in practice and salary wanted. Address "DENTIST," No. 346 Fulton Street, Brooklyn.
- 4014—**WANTED**—Position. Have had five years' experience since graduation; successful in treating teeth; thorough experience with gas, etc.; fine success with local anaesthetic for painless extracting. Gold fillings not patched with cement or alloy; thorough and good workman in any branch; single, 29. Address "ETHICAL," Box 24, Auburn, Ind.
- 4015—**WANTED**—To buy whole or part interest in established practice. Address "RELIABLE," care "Items of Interest," No. 130 Washington Place, New York.
- 4016—**FOR SALE**—Cheap, good country practice in Virginia. Address "B," care "Items of Interest," No. 130 Washington Place, New York.
- 4017—**WANTED**—Operator, registered, New York State. Permanent. Address DR. McFARLANE, Watertown, N. Y.
- 4018—**WANTED**—Good all around workman. Need not necessarily be graduate. Address "No. 4018," care "Items of Interest," No. 130 Washington Place, New York.

See following page.

## Wants, For Sale, etc.

4019—WANTED—Location or practice, convenient to Philadelphia. Address CONSOLIDATED DENTAL MFG. CO., Philadelphia.

4020—FOR SALE—A fashionable practice in a foreign city, owner retiring; terms easy. Address, "No. 4021," care "Items of Interest," No. 130 Washington Place, New York.



USE THE  
**HECKARD**  
**Nitrous**  
**Oxid**  
**Apparatus**  
Excavate  
SENSITIVE  
CAVITIES  
Remove  
LIVE PULPS  
PAINLESSLY.

MANUFACTURED BY  
The Perfection  
Specialty Co.  
INDIANAPOLIS, IND.

## AB-KON-KER

The Abscess Conqueror, a paste always ready, cures 80 per cent. abscessed teeth with one treatment, 99 with two treatments. A permanent treatment for all root canals. Postpaid, \$1.00. AB-KON-KER CO., S. M. White, D.D.S., Mngr., 129 Wall St., Benton Harbor, Mich.

## INCREASE YOUR PRACTICE

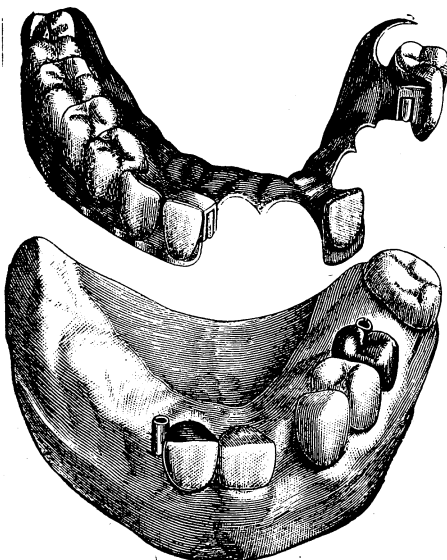
Long, poorly-worded advertisements will not accomplish your purpose. People cannot form a favorable opinion of your dentistry if your ads. are weak and pointless.

Use crisp, tactful, attractive ads. that tell the strong features of your methods in clear, concise language.

My dental ads. create business for one dentist in a town—the first to sign contract. Bank references. Write for specimens of my work.

**F. Hugh Freeman**  
**DENTAL ADVERTISING EXCLUSIVELY**  
12 E. G. Freeman Bldg., Binghamton, N. Y.

# Why Should I



use the Condit Removable Bridge? We wish every dentist would ask himself the question, for we have the convincing answer ready.

It's so strong, yet so simple; so firm, yet so easily removed for cleansing and repair. Takes up so little room and has such a wide range of adaptability. You have had such cases as this, but did you make a success of them? You would, if you had used the Condit Removable Bridge. Investigate its merits. Write a postal card for a booklet, and write it now. Mention "Items of Interest."

**NATIONAL DENTAL  
IMPROVEMENT CO.**

**MT. VERNON, O.**

*The following claims are made for*

# *—Dentacura.—*



FIRST, that it is an ideal dentifrice and as one Dentist describes it, "A necessary adjunct to the Dental Toilet."

Second, that it minimizes the harmful bacteria in the oral cavity, thus producing an environment calculated in the highest degree to preserve the teeth.

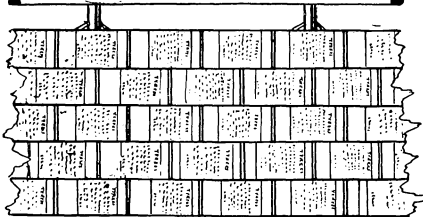
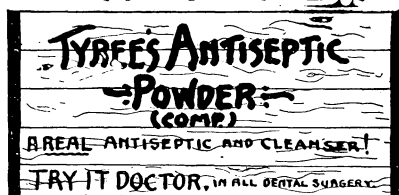
Third, that the fact that it is pleasant to use will insure this protection while a less agreeable preparation would be but infrequently used or entirely neglected.

We invite the opportunity to convince Dentists of these facts. Samples and literature on application.

**DENTACURA COMPANY,**  
*NEWARK, NEW JERSEY, U. S. A.*

# HALT!

Indicated in  
Ulcerations,  
Foul  
Cavities,  
Extractions,  
Abscesses,  
and for  
Cleansing  
all Odorous  
Secretions.  
Sample and  
Booklet  
Free.



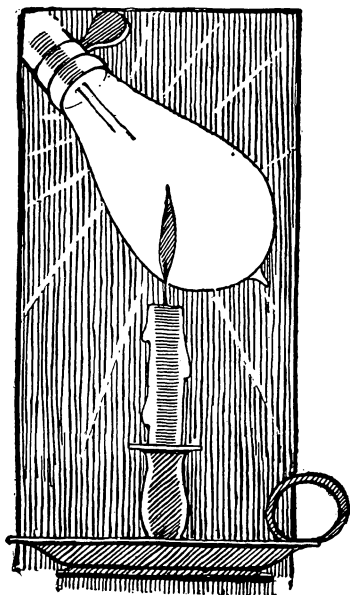
WHEN THE ARMY OF BACTERIA  
REACHES THIS WALL THEY FIND IT TO BE  
IMPASSABLE

NOTICE. SAMPLE AND LITERATURE SENT  
UPON REQUEST BY ADDRESSING,

J. S. TYREE.  
(CHEMIST)  
WASHINGTON. D. C.

Costs LESS  
and goes 10  
times as far  
as the other  
Kinds.

You add the  
water and  
save the  
cost, thus a  
reliable, dry  
and liquid  
antiseptic  
in one.



SAMPLE AND LITERATURE  
UPON REQUEST

"Like as an electric light outshines  
a candle, so Phenol Sodique leads  
all other antiseptics."

## PHENOL SODIQUE

is the dentists' ideal antiseptic,  
because it controls hemorrhages, re-  
lieves pain, destroys disease germs,  
prevents fermentation, hardens the  
gums and cleanses the mouth.

### HANCE BROTHERS & WHITE

Pharmaceutical Chemists

PHILADELPHIA

NEW YORK

CHICAGO

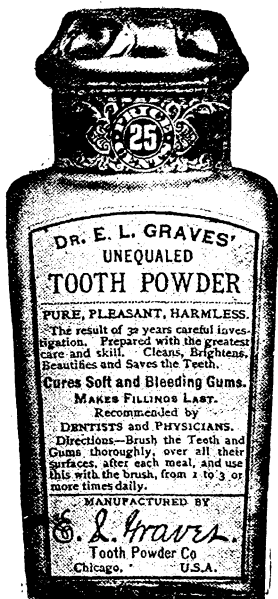


# To Dentists Free

Samples and original packages for  
examination and personal use sent by

## Express Prepaid

Is your name in the Dental Directory?



## Dr. E. L. Graves' Tooth Powder

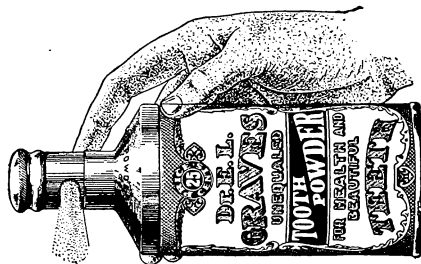
Will cure Pyorrhea Alveolaris in early stages and is efficient in the treatment of all advanced stages of the disease.

A mild tonic and stimulant; an antacid, antiseptic, deodorizer and disinfectant; a perfect mouth wash.

We will send you with our compliments and all charges prepaid a package that contains a regular size can for your personal use and samples for your patients.

Sold by Druggists

3 oz. bottle	=	=	25c.
3 " can	=	=	25c.
8 " "	=	=	50c.



New metal bottle, handy for Tourists.

MANUFACTURED BY  
**DR. E. L. GRAVES TOOTH POWDER CO.**  
CHICAGO, U. S. A.

# It Never Cracks in Use

## Disgusted With Life?

No, only with the glass bowl on my spittoon. This is the third one that has cracked; just more expense and trouble for me.

## What Shall I Do?

Get a Blair and your trouble will be over. No use to guarantee this, it is a fact THE BLAIR BOWL does not crack in use.

You Won't Buy Trouble When You Get a  
**BLAIR**

*"A Word to the Wise is Sufficient"*

**The Blair Dental Manf. Co.**

668-670 Third Avenue

Louisville, Kentucky

DEMAND From the  
**TENAX** Virginian Asbestos  
 Mines

Impress with TENAX—Accuracy  
 Take the bite with TENAX—Pleasure  
 Make base plates from TENAX—Success  
 Invest gold crowns with TENAX—No cracking  
 Invest porcelain with TENAX—Won't check

**Demand Tenax**

**SANITOL**

THE only "Gold Medal" award at the Louisiana Purchase Exposition to dental antiseptic preparations was given to SANITOL, covering all the Sanitol products. This is an official stamp of approval made by a Commission of Award, composed of experts.

**AWARDED THE GOLD MEDAL**  
**At the ST. LOUIS WORLD'S FAIR**

THIS publicly acknowledges what the American dentist has long known, that Sanitol is the best in the world to recommend to their patients as preparations for daily use on the teeth and mouth.

The Sanitol products are: SANITOL LIQUID ANTISEPTIC, SANITOL TOOTH POWDER, SANITOL TOOTH PASTE and SANITOL TOOTH BRUSH. Found at all druggists. SEND FOR OUR LITERATURE.

THE SANITOL CHEMICAL LABORATORY COMPANY,  
 Saint Louis, Missouri, U. S. A.

**SANITOL**

# Cabinet No. 35 with Top

(PATENT PENDING)

OUR CABINETS stand for the best in Cabinet making. In design they satisfy the most critical. The construction and workmanship is of the highest order. Particularly suited to the dentist who seeks something different from the ordinary, and who values both beauty and utility.

PRICES :—Mahogany, \$95.00. Quartered Oak, \$80.00.

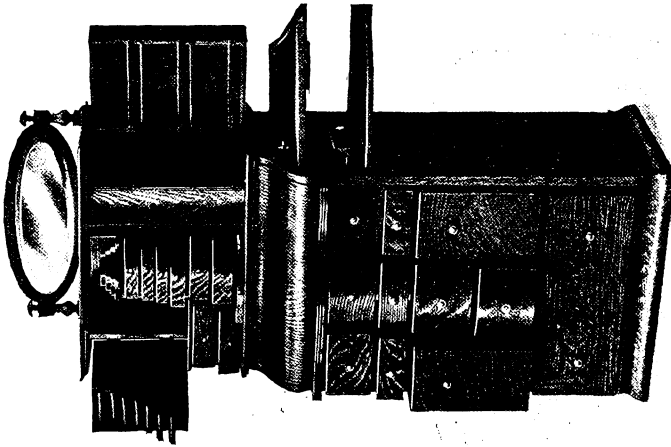
FREE--Our Cabinet Book which fully describes this Cabinet and others, FREE from your dealer or direct from us, if you are interested.

## The Ransom & Randolph Co.

Manufacturers

TOLEDO, OHIO, U. S. A.

T-21



# Almost Unanimous

ON September 13th we addressed this letter to each man on the programme for a porcelain clinic at the International Dental Congress at St. Louis:

"Dear Sir—Will you be so kind as to tell us in enclosed stamped envelope what make of porcelain you made use of in your clinic at the International Dental Congress in St. Louis, and accept in advance our sincere thanks for the courtesy of a prompt reply. Yours very truly,

"LEE S. SMITH & SON."

Of the 34 men who have answered the inquiry, 8 gave no clinic at all, 2 used ground up teeth and of the remaining 24

15 USED THE BREWSTER PORCELAINS  
EXCLUSIVELY.

4 used the Brewster porcelains in combination  
with others, and

5 used other makes of porcelains all put together,

or, in other words, over 79% of the clinics with porcelains on the market were performed with Brewster's Porcelains.

The men who gave these clinics are recognized experts of the highest order or they would not have been selected and it is just as important to know what they used as how they used it.

If YOU are not using Brewster's porcelains you are not getting as good results as you can get in your porcelain work.

LEE S. SMITH & SON  
PITTSBURG

Sole Agents for Brewster's Porcelains.

# WILL IT PAY?

## WILL IT PAY

To consider a difference of a dollar or two in the purchase of an instrument so continuously employed as an Automatic?

## WILL IT PAY

To sacrifice efficiency, durability and appearance to economy in an instrument which, if rightly constructed, will serve you for twenty years?

## WILL IT PAY

To buy at any price what will "answer the purpose," when an instrument built best for every purpose for which it is intended can be had at the right price?

**LEWIS AUTOMATIC PLUGGERS**  
are all that is desirable.

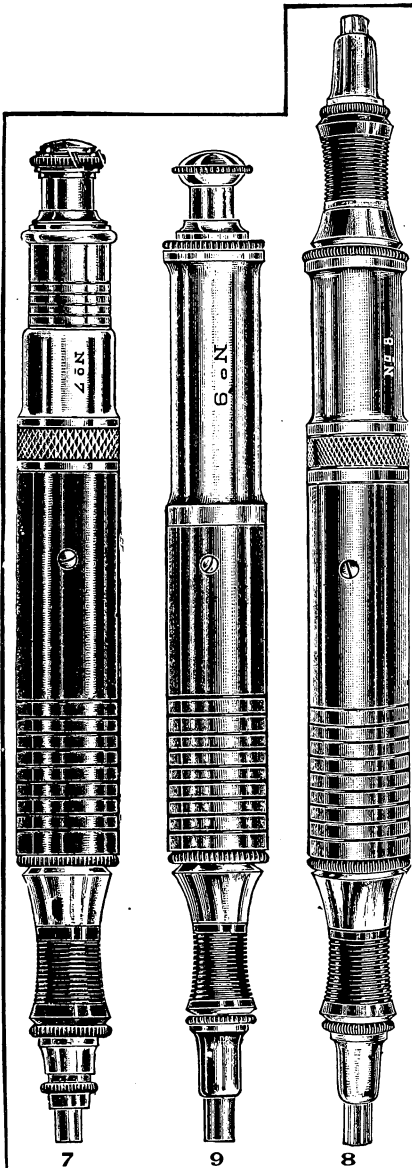
**Rightly constructed for greatest efficiency and durability.**

**AND THE PRICES ARE RIGHT**

No. 7, \$7.00. No. 8, \$8.00.  
No. 9, \$7.00.

*Particulars in Catalogue "E" sent for the asking.*

**BUFFALO DENTAL  
MANUFACTURING CO.**  
Buffalo, N. Y., U.S.A.



**ALL LEWIS PLUGGERS HAVE BLACK  
HARD RUBBER GRIPS.**

# A Perfect Mould from a Model Tooth

---

THIS can be obtained at last no may  
be so about it, it's "a sure thing"  
if you use

## The Sharp Crown Flask

¶ This is the latest invention of Dr. W. M. Sharp and is a radical departure from any other method ever before employed. The molten metal is poured into the flask in such a way as to exclude all air bubbles and imperfections in the mould, making the gold crown an absolutely faithful reproduction of the model tooth.

¶ This Crown Flask is now a part of the Sharp Seamless Outfit without any increase in price, or the flask is sold separately.

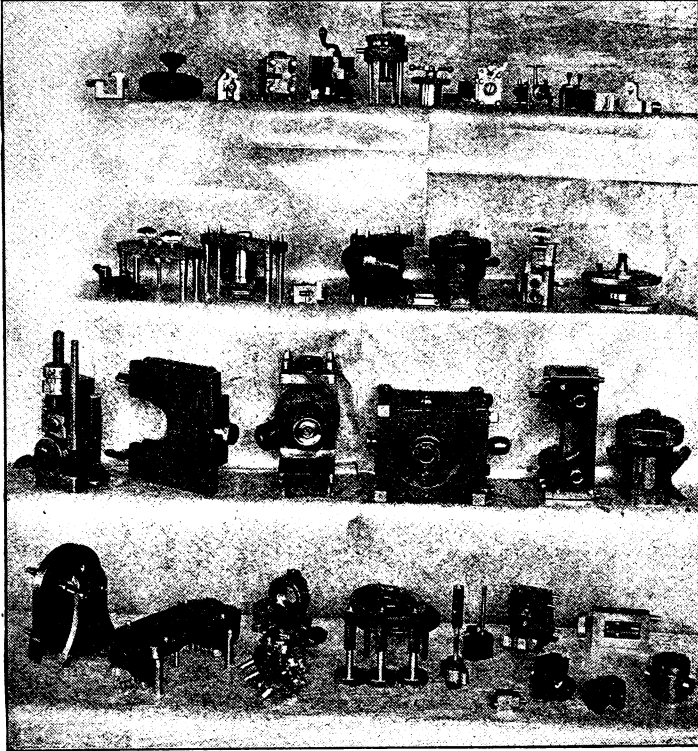
Price, complete, \$2.50

*Sold by dealers generally Send for descriptive matter*

---

S. Eldred Gilbert Dental Mfg. Co. Inc.

1315 MARKET STREET .: PHILADELPHIA, U. S. A.



## A FEW JIGS AND SPECIAL TOOLS USED IN MAKING COLUMBIA ELECTRIC ENGINES AND LATHES.

The making of electric engines and lathes requires many special tools. The absolute accuracy which we demand in every part of Columbia Electric Engines and Lathes requires an unusual number of such tools, a few of which are shown in the illustration.

These tools are very expensive and valuable, and when not in use are stored in an underground, fire-proof vault. Should our factory be destroyed we could immediately resume the manufacture of engines and lathes identical with those we now make.

This point is of great importance to each purchaser of apparatus requiring the investment of so much money.

**THE RITTER DENTAL MF'G. CO., Rochester, N. Y.**

C-816



## UPHOLSTERING FAVORITE COLUMBIA DENTAL CHAIRS



All parts of Favorite Columbia Chairs which are to be upholstered are first shaped in wood which has been so dovetailed that it cannot warp.

The best upholstering materials are then applied by skilled workmen, the result being perfect upholstery.

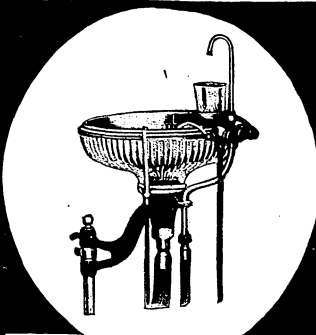
The outer covering is then applied in leather or plush. The plush used on Favorite Columbia Chairs is the best imported mohair plush, and is the most expensive plush used on any dental chair.

EVERY PART OF OUR FACTORY IS GLADLY  
SHOWN TO VISITING DENTISTS

THE RITTER DENTAL MF'G. CO.,  
ROCHESTER, N. Y.

C-817

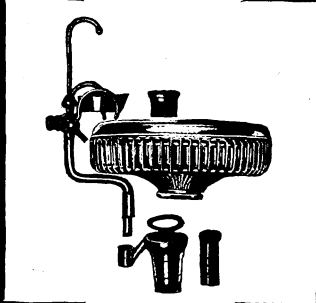
ASK YOUR DEALER ABOUT  
FAVORITE COLUMBIA CHAIRS.



## The Clark Double Bowl Spittoon

Price \$65.00

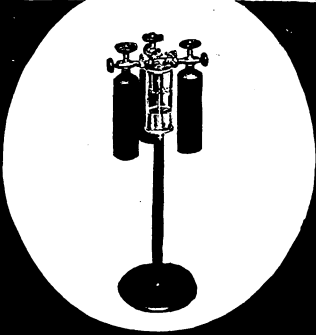
The Best on earth ; no question about it



## The Clark Single Bowl Spittoon

Price \$40.00

The Best Single Bowl Spittoon made



## The Clark Correct Gas Apparatus

Price \$55.00

A combination of the good features  
of all gas apparatus

We will gladly send illustrated catalogues, testimonials and other information. The above are all "money back if not satisfactory" goods.

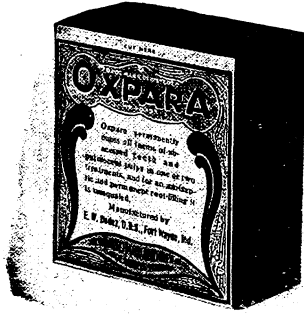
Clark's goods are GOOD GOODS.

### A. C. CLARK & CO.

Randolph St. and Michigan Ave., CHICAGO

52 Shaftesbury Avenue, LONDON

94 Mauerstrasse, BERLIN



THE nearest approach to perpetual motion is the ceaseless and increasing demand by dentists for OXPARA. Results is the power that keeps it going. OXPARA CURES ABSCESSES when others fail. All Dealers, \$1.50.

# DR. JENKINS'

PORCELAIN ENAMEL AND PROSTHETIC PORCELAIN

Following the request of a number of our friends, we have decided to give a series of Demonstrations and Clinics throughout the country, under the direction of experts. To these all Porcelain workers, whether they use the Jenkins' system or not, are cordially invited, as well as all dentists who think of taking up Porcelain. We will not only show you how to do the work, but give you an opportunity to do it yourself. The method of making Porcelain inlays, crowns, bridges and dentures is continually undergoing simplification and being improved. Our representatives keep up with the development in Porcelain work, and you will be able to obtain many points from them.

## Demonstrations of Dr. Jenkins' System

**Porcelain Inlays, Crowns, Bridges and Continuous Gum Work**

### NEW YORK CITY

Dec. 12 and 13.—First District Dental Society Meeting, Grand Central Palace, 43d St. and Lexington Ave. Demonstrator, L. A. Jenkins.

### B O S T O N

Nov. 29, 30 and Dec. 1.—Boston Dental Depot, 100 Boylston St. Demonstrator, L. A. Jenkins.

### PHILADELPHIA

Dec. 5 to 10.—Consolidated Dental Mfg. Co., Broad and Chestnut Sts. Demonstrator, James D. Lochhead.

### CINCINNATI

Nov. 28 to Dec. 3.—Samuel A. Crocker & Co., 35 W. 5th St. Demonstrator, Dr. R. S. Miller.

### C O L U M B U S

Dec. 6, 7 and 8.—Ohio State Dental Association. Demonstrator, Dr. R. S. Miller.

### T O L E D O

Dec. 12 and 13.—Ransom & Randolph, Dental Depot, 514 Jefferson Ave. Demonstrator, Dr. R. S. Miller.

### B U F F A L O

Dec. 15, 16 and 17.—Consolidated Dental Mfg. Co., 12 Mooney-Brisbane Bldg. Demonstrator, Dr. R. S. Miller.

Special courses in Porcelain work given at our Demonstrating Dept., 180 Meadow St., New Haven, Conn., by appointment.

## KLEWE & COMPANY, INC.

## THERE ARE GOOD REASONS

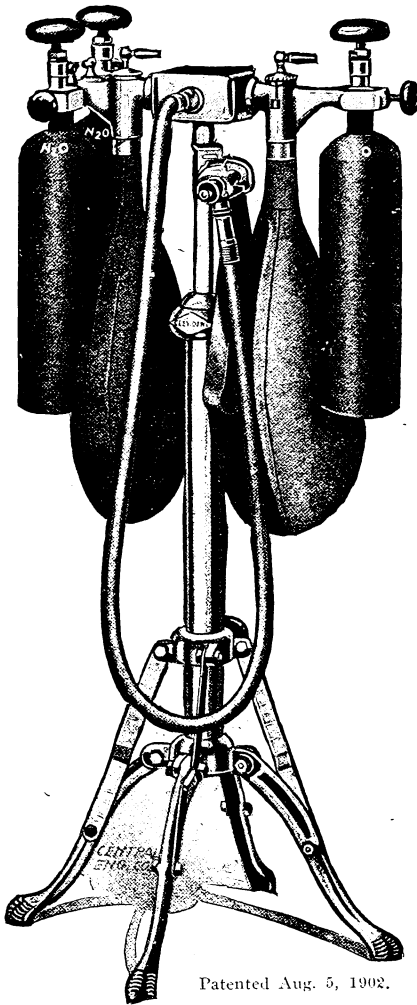
for all of the complimentary statements one can make about the Teter Nitrous Oxide and Oxygen Apparatus. First of all, there are good reasons for its existence. It has been evident for some time that Nitrous Oxide and Oxygen is destined to become the most popular anesthetic agent known by reason of its

absolute safety and other attractive features. Wasn't it reasonable to suppose that a *perfect* apparatus for the administration of this ideal anesthetic would become as popular as the agent itself, especially in view of the fact that no such outfit was in existence before the Teter Apparatus was introduced?

Then, too, there are excellent reasons why the Teter Nitrous Oxide and Oxygen Apparatus is positively the best on the market to-day. Its manufacturers realized from the very first that it would never be a success financially or otherwise, unless at least two important objects were attained. First, an apparatus so constructed that it would afford every service known to be possible in the production of Nitrous Oxide and Oxygen anesthesia; second, an apparatus so near perfection itself that no one would think of improving upon it for a long time to come, if ever. An apparatus any dentist or physician would buy on the strength of its merits *alone*.

The Cleveland Dental Mfg. Co. succeeded in perfecting just such an apparatus. They named it after the specialist who advanced the practical ideas for its construction. Then they offered it for sale as the Teter Nitrous Oxide and Oxygen Apparatus. It has been on the market long enough to enjoy large sales and establish a world-wide reputation for itself. Aren't there good reasons for it? They're for sale by dealers everywhere. If you're interested, send for booklet on "Prolonged Anesthesia" and mention the name of your dealer.

Address Department A-53.



Patented Aug. 5, 1902.

**The Cleveland Dental Manufacturing Company**  
CLEVELAND, OHIO, U. S. A.

# The Same Old Story

But what would you do if we ceased to make

## Gilbert's Temporary Stopping ?

There is none among all of the imitations that can take its place and accomplish the same purpose. So what's the use in a few of you trying to get along with some other kind, because it costs less or has been forced on you by some dealer who did not have the original in stock. This is not mere ad talk but the truth.

When you get Temporary Stopping **insist on having Gilbert's and see that you get it with his signature across the face of the box in red.**

**The price is 50 cents**

This comes in stick form and consists of All Pink—All White—or Assorted, Pink and White.

If you would like a free sample we will mail it if you send your dealer's name.

**They all can supply you, but in case any should refuse we will mail it on receipt of price.**

1627 Columbia  
Ave., E. B.

*J. Eldred Gilbert*

Philadelphia  
Pa.

## A New Departure in Dentifrices

# CALOX

## The Oxygen Tooth Powder

(U. S. Patent Granted May 17, 1904)

Sample and Literature  
on receipt of card.



**McKESSON  
& ROBBINS**

NEW YORK

*PRODUCES A SURGICALLY CLEAN AND NOT  
MERELY A FLAVORED MOUTH.*

*CALOX is very pleasant to use and leaves  
a sense of freshness and purity only possible  
as the result of a chemically clean mouth.  
It is the only dentifrice that will sterilize the  
oral cavity.*

# The Triggs Dental Charts.

A Modern Card Index System of

## DENTAL BOOKKEEPING.

It affords easy and rapid reference to all accounts, no matter how old; is simple in construction and inexpensive. We carry three styles of charts and can make special forms to order. Prices for stock charts, including case and index:

**\$6, \$8, \$10 and \$12.**

Write us for samples and any further information desired.

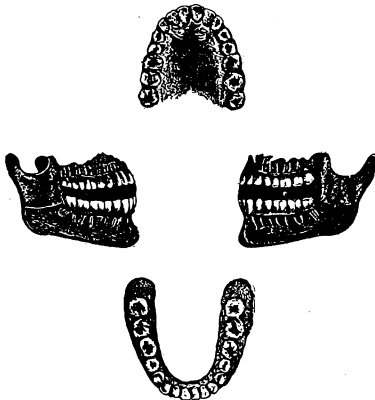
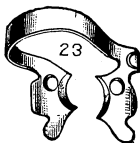
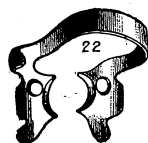


CHART NO. 1.

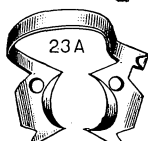
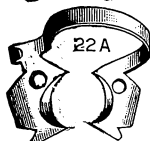
THE TRIGGS SYSTEM OF DENTAL CHARTS may be ordered from the Consolidated Dental Mfg. Co., Sole Agents, at its home office, 130 Washington Place, New York; from its branch houses in Boston, Detroit, Cleveland, Brooklyn, Buffalo, Philadelphia, Chicago, and from any of the Company's agencies throughout the U. S. and Canada, and foreign countries.

# Partial List of **IVORY'S MOLAR CLAMPS**

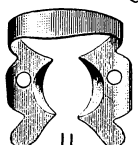
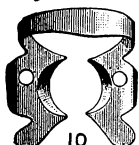
## Different Sizes and Form



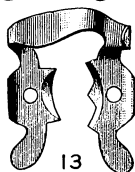
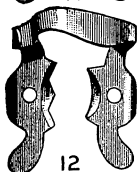
Nos. 22 and 23, right and left, are adapted to second superior molars and child's first molars, buccal and other cavities. Price per pair, \$1.60.



Nos. 22A and 23A, right and left, are adapted for first superior molars and large size second superior molars and third inferior molars. Price per pair, \$1.60.

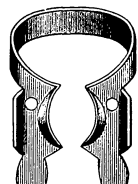
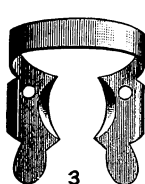
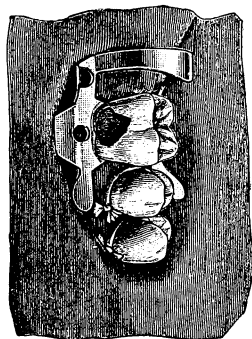


Nos. 10 and 11 are Right and Left Inferior Molar Clamps for all small molar teeth; also child's first molars. The bow of this clamp is extremely low. Price per pair, \$1.60.



Nos. 12 and 13 are designed for buccal cavities, those peculiar saucer-shaped cavities in first and second inferior molars; used with Rubber,

Holding the Gum and Rubber Dam; well out of the way of operation. Price per pair, \$1.60.



No. 3, designed for a General-Purpose Inferior Molar Clamp, narrow jaws. Price, 80 cents.

No. 4, designed for a General-Purpose Superior Molar Clamp, narrow jaws. Price, 80 cents.



No. 5, designed for a Superior Molar Clamp; for general use; stiff spring. Price, 80 cents.

No. 56, designed as an Inferior Molar Clamp; general use; stiff spring. Price, 80 cents.

SEND FOR CLAMP CATALOGUE

**J. W. IVORY, 51 N. 10th St., Phila., Pa.**



## WILL NOT CORRODE GOLD FILLINGS

Antiseptic, Astringent, (Slightly) Alkaline.

# Sozodont

There is almost a uniformity of opinion among the members of the Dental Profession regarding the advisability of regularly using an **Alkaline Antiseptic Wash**.

**Sozodont Liquid** not only fills this requirement perfectly but also possesses such a delightful fragrance as to insure its faithful use by the most reluctant of patients.


**Sozodont Tooth Powder** also possesses Alkaline, Antiseptic and Astringent features. It is smooth, fragrant and convenient to use.

**Sozodont Tooth Paste** has recently been placed upon the market. It combines in a simple form the admirable properties of both Liquid and Powder.

Samples and analyses prepaid on request. Correspondence invited.

Established 1848.

**HALL & RUCKEL**  
New York City.



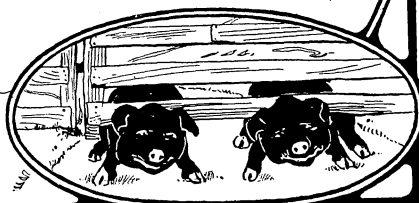
A  
Pig  
under a  
Gate

The answer to the old conundrum  
"what makes more noise than a  
pig under a gate," is "*two pigs*."

One bowl in a fountain spittoon is cleaner  
than two bowls, because if two bowls are  
cleaner than one, six would be cleaner  
than two.

The Weber Fountain Spittoon has only  
one bowl, and there is no machinery about  
it to get out of order. It is always clean  
and sweet, because it gets rid of the con-  
tents the very instant they hit the bowl.

**LEE S. SMITH & SON**  
PITTSBURG, PA.



# HAMMOND FUSED OXIDE CEMENT

FOR PERMANENT FILLINGS, CROWN AND BRIDGE WORK.

This cement has been on the market for 12 years and will please you. It has no equal for inlay and crown and bridge-work, holding with a grip that is unaffected by the varying conditions of the mouth. The liquid does not crystallize in any climate. The powder is very fine and without a peer.



This cement is not only the best, but is supplied in liberal packages in the following colors: Yellow, Gray, Cream, Green Gray and Deep Gray. Price, \$1.50, two colors and liquid. 6 boxes \$8.00; 12 boxes, \$15.00.

SOLD BY ALL FIRST-CLASS DEALERS

The following tests show for themselves, and are reproduced accurately from *Items of Interest* for November, 1898, pages 810 and 811, and were made by Dr. E. K. Wedelstaedt, of St. Paul, Minn.

Hammond's Fused Oxide, rolled (mallet) .....	177
Hammond's Fused Oxide, soft.....	94
Ames' Metalloid, rolled (mallet)...	170
Ames' Metalloid, soft.....	94 4-9
Justi's Insoluble, rolled (mallet)...	148
Justi's Insoluble, soft .....	70
Weston's Insoluble, rolled (as per directions accompanying cement)...	113
Weston's Insoluble, soft.....	6%
Caulk's Diamond, stiff mix.....	79 1/2
Caulk's Diamond, soft .....	20
Britton's rolled .....	57 1/2
Britton's, soft .....	45

# Hammond White Gold Alloy



If you have been disgusted with the black results heretofore obtained from Amalgam fillings, get it at once. For over twelve years it has proved to be the **WHITEST, CLEANEST** and **BEST** metallic filling ever placed in the Dentist's hands. It is produced by using chemically pure metals, with such nicety of manipulation that in melting the several different kinds the average of waste in the furnace is less than 5 grains in each 60 ounces, making it the **ONE** alloy always true to formula.

It contains only metals known to be tooth preservers, and the proportions are so finely adjusted that expansion and contraction exactly neutralize each other, the result being a filling as unchangeable as gold itself.

This Alloy is tough, has wonderful edge strength and takes the highest polish. It does not tarnish, and without exception has the whitest permanent color of any metallic filling in existence.

Put into a cavity with ordinary care it outlasts the best Amalgam ever before produced. Gold itself is not more durable or beautiful. A filling of it highly polished, never dulls or loses its beauty.

Use it to fill cavities in front teeth, for which purpose it stands alone.

It is susceptible of great range in contouring.

Mix it as you would an ordinary Amalgam.

It works up smooth and beautiful.

Be careful not to leave an excess of mercury in the filling. Work it out by pressure, or by **ADDING MORE ALLOY** when mixing.

If thoroughly amalgamated, it does not soil the hands even though you rub up a large filling.

Polish and finish your filling well, for prices can be commanded for it almost equal to gold.

After using it, its continued whiteness, great edge strength and absence of shrinkage convinces the most skeptical it has no equal.

Price, per oz., \$3.00; 5 ozs., \$12.50; 10 ozs., \$22.50.

Manufactured by **JOHN F. HAMMOND** 35-43 West 125th Street NEW YORK, N. Y., U.S.A.

# Suggestion Number 2

For simple operations—say for example a plastic filling in a superior molar or bicuspid, try placing a section (about  $1\frac{1}{2}$  inches) of a No. 3 or No. 4 Absorbent Cotton Roll over the duct of Steno on the side of the mouth where you are to operate. In doing this stretch the soft parts *well out* and place the roll *high up* so that it will be drawn to place by the muscles and *stay there*.

Then place a second section of a No. 2 or No. 3 roll below this, parallel with and just above the margin of the gum, and you are ready for work. (Time, ten seconds.) This may be reenforced by pushing back with a section of dry roll at any time, if necessary.

If you are not familiar with each and all of the following preparations write for samples and suggestions for their use.

Red Cross Aseptic Dental Napkins  
Absorbent Cotton Rolls  
Non-Absorbent Rolls  
Cottonoid  
New Aseptic Paper Table Covers  
(for Allan, Holmes or Harvard Table)

Absorbent Pledgets  
Absorbent Canal Points  
Red Cross Bibulous Paper  
Carbonized Cotton  
Sinacine Plasters  
Red Cross Dental Floss

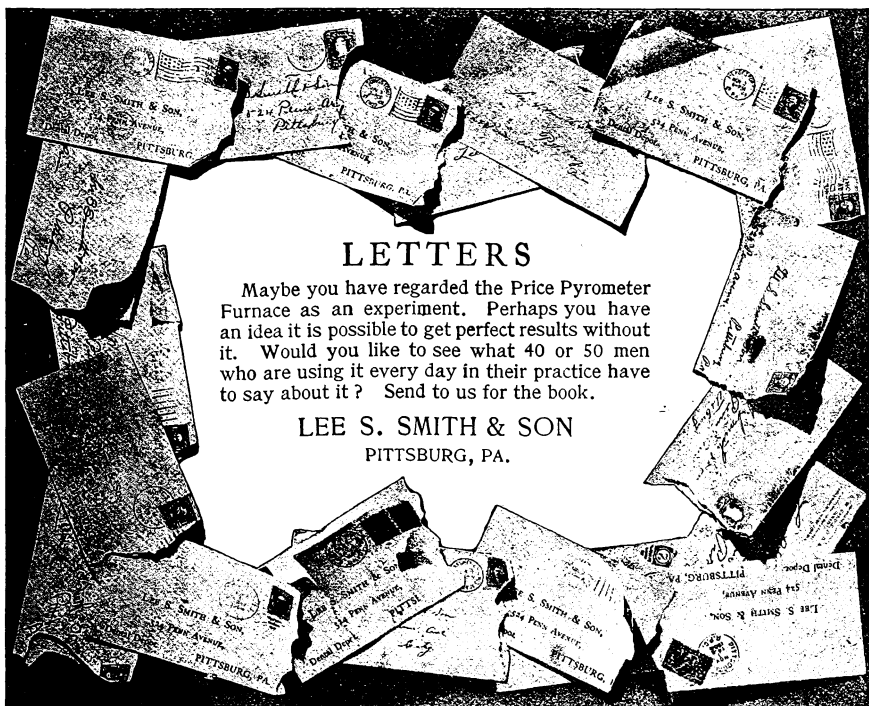
*All are Sterilized and Surgically Clean*

Sold by leading Dealers in Dental Supplies  
in every country in the world.

Specify Johnson & Johnson's

JOHNSON & JOHNSON

New Brunswick, N. J., U. S. A.



**LETTERS**

Maybe you have regarded the Price Pyrometer Furnace as an experiment. Perhaps you have an idea it is possible to get perfect results without it. Would you like to see what 40 or 50 men who are using it every day in their practice have to say about it? Send to us for the book.

**LEE S. SMITH & SON**  
PITTSBURG, PA.

**AMES' CEMENTS**  
 Special Crown and Bridge,  
 Special Inlay  
 and  
 Oxyphosphates of Copper  
 are  
**STANDARD**

**FOR**  
**Durability**  
 and  
**Working**  
**Qualities**

this cement has not been excelled during the twenty years it has been manufactured.

Always the favorite with expert "Bridge Workers" and is recommended above all other cements by Dr. A. E. Peck in his recent book on Porcelain Inlay.

Price per box,  
\$1.50



WITH **SCIENTIFIC** EMPLOYEES  
THE ART OF **REGULATING** IS MADE EASY.

WE HAVE **THE** EMPLOYEES, IN  
FACT THE OTHER **KIND** ARE NOT PROFITABLE.

Have you tried our **Porcelain** work? We do all kinds; we also  
make **Crowns, Bridges, Plates** of the **highest grade**.

**SAM'L G. SUPPLEE**  
874 Broadway NEW YORK, N. Y.

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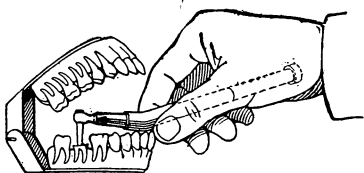


FIG. 1

## DIRECTIONS FOR USING "The HARPER HOLDER"

PATENT PENDING

Absolutely indispensable for removing enamel and  
trimming roots for crowns.

The cleaver points turn in the socket of the holder to reach all sides and angles of the tooth.

Rest that part of the shank (covered with rubber) firmly on the incisal or occlusal surfaces  
of the teeth as follows:

### BICUSPIDS AND MOLARS

BUCCAL AND LINGUAL SURFACES are prepared by resting the Holder on the central  
or lateral of the same side (Fig. 1.).

MESIAL AND DISTAL SURFACES are prepared by resting the Holder on the occlusal  
surfaces of the first or second bicuspid of the opposite side, working across the mouth.

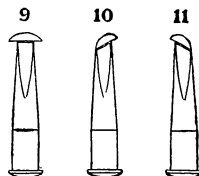
### INCISORS AND CUSPIDS

Are prepared by resting the Holder on the cuspid or bicuspid of the opposite side of the mouth.

With these positions, lateral pressure on the handle of the Holder will press the cleaver  
point into the enamel; and with light upward or downward pressure on the handle the enamel  
is readily prised off.

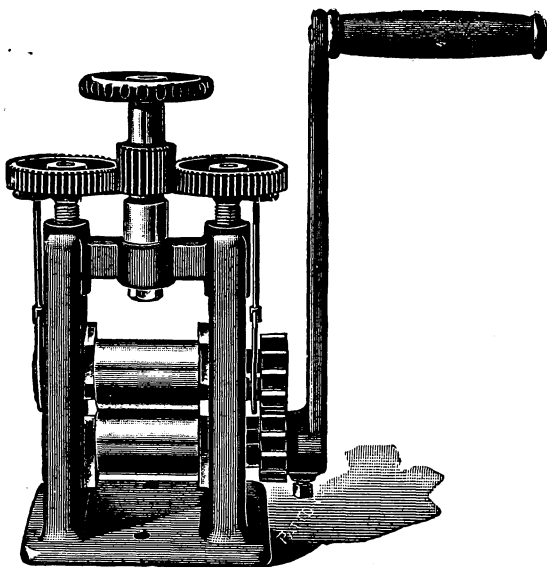
Harper Holder with Cleavers No. 9, 10, 11, \$3.75

Cleavers { UNIVERSAL 9 }  
          { RIGHT 10 } each . . . . . .50  
          { LEFT 11 }



**DR. WM. E. HARPER, Maker**  
3441 WABASH AVE., CHICAGO

*The*  
**Crown  
Dental  
Rolling  
Mill**



For Description and Prices address the Manufacturers

**The W. W. Oliver Manufacturing Co.**  
1487-1489 Niagara Street, . . . BUFFALO, N. Y., U. S. A.

**STOWE & EDDY CO.**

1133 BROADWAY  
NEW YORK

ESTABLISHED  
IN 1888

**BOSTON DENTAL LABORATORY CO.**

171 TREMONT ST.  
BOSTON

THE LABORATORIES WITH A REPUTATION FOR EXCELLENCE  
OF WORKMANSHIP RATHER THAN CHEAPNESS.

— SEND FOR PRICE LIST —

# ATLAS DENTAL LABORATORY CO.

INCORPORATED

W. J. TRUMPOUR, MGR.

35-37 RANDOLPH ST.

PHONES: CENTRAL 1780.  
AUTOMATIC 5780.



CHICAGO.

Our new catalogue of prices for 1905 is now out, and if you have not received a copy kindly drop us a line and you will receive one by return mail.

It's a neat little work, that gives all information regarding preparatory work, prices, etc. We want every dentist in the world to receive a copy. We have already mailed over 17,000 and have many thousand yet on hand. Do not delay in sending, as time is money for you in this case.

Highest prices paid for gold and platinum scrap.

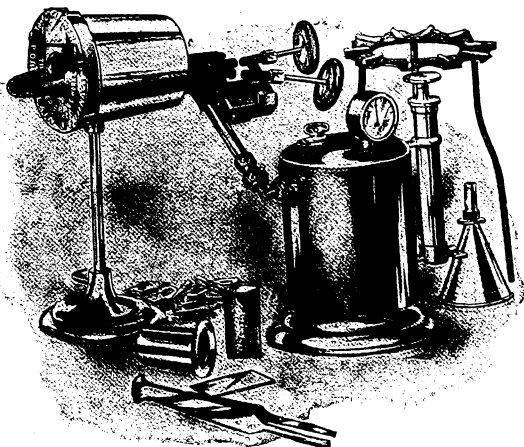
## ATLAS DENTAL LABORATORY CO.,

DR. J. C. McLEAN, Supt.

Over the S. S. White Dental Mfg. Co.

# THE TURNER GASOLINE PORCELAIN FURNACES

\$21 to \$35



**PERFECT FURNACES for  
PERFECT WORK**

THE Turner Gasoline Porcelain Furnaces for Crown, Bridge and Inlay Work, bake porcelain perfectly. Better results can be obtained than with Gas or Electric Furnaces and can be operated either night or day. Simple to operate and perfect in control. Blow pipe is separate from furnace and useful for all soldering and other work in the laboratory.

**OUR NEW CATALOGUE**

**SENT FREE ON REQUEST**

No. 160 Porcelain Furnace Outfit, \$35.00.  
Size, 5½ x 13½ x 11½ inches; Weight, 16 lbs.

## THE TURNER BRASS WORKS

30 No. Franklin Street  
CHICAGO

# Arnoda

**FOR** the treatment of all inflammatory conditions of the dental pulp.

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It forms a non-conducting and non-irritating capping over the pulp.

Requires only those conditions which all good operating requires, viz.: a clean dry cavity, as nearly sterile as may be.

---

It consists of a powder and fluid which should be mixed like cement and applied direct to the cavity. ***The permanent filling is put on top of Arnoda.***

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Your dealer will refund your money if it is not all we claim.

All dealers, \$1.50 per box.

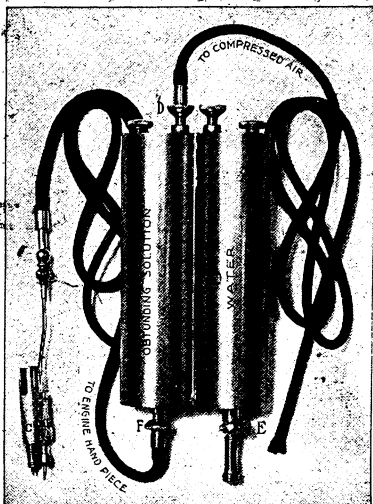
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**THE RANSOM & RANDOLPH CO.**  
TOLEDO, OHIO



# THE KNOWLES OBTUNDER.

We wish to call your attention to the "Knowles Obtunder," something entirely new and different from anything heretofore on the market, an instrument for use with COMPRESSED AIR and consisting of a double Cylinder (A and B), an attachment for hand-piece (C), interchangeable plugs to fit both cylinders and silk covered Rubber Tubing sufficient to connect hand-piece attachment with cylinder and compressed air pipe. The instrument may be used with any dental engine and is made to fit any hand-piece.



By our system of tubing in interior of cylinder, the Obtundant Solution ("non secret, the formula being given to each purchaser of the Instrument") is conducted through the movable nozzle attached to hand-piece in form of Absolutely Dry Medicated Air thrown directly on the revolving bur. The bur is kept clean and cool, the cavity dry and free from debris. The most sensitive dentine excavated practically without pain. In ninety per cent of the cases absolutely painless.

The Instrument was demonstrated at the "Fourth International Dental Congress," at St. Louis, where we excavated cavities for all comers, among them, thirty-five for dentists themselves without a single failure. Ask your friend who was there; he will tell you that our corner attracted the largest crowd in the hall every hour in the day, and that we were selling to representative men from all parts of the world.

In addition to the Obtunding feature it is superior to hot air for drying out root canals.

In treatment of Pyorrhea keeps the pockets open and dry while operating. Thrown upon the back of the disc while finishing fillings will prevent heating. Will keep posterior cavities and those at gum margin dry without use of dam. Will keep root dry while setting crowns and bridges and is used in connection with many other operations.

If you cannot obtain a Knowles Obtunder through your dealer, if you also wish a Compressed-air outfit, and for further particulars, address

**DR. W. J. McCVAIG, 100 State Street, CHICAGO.**

Hall's Carborundum Rubber Disks

ARE THE BEST.

For the general work of Finishing Fillings, Shaping Teeth and Roots for Crowns and Bridges, Enlarging Spaces between Teeth, and Grinding Porcelain Crowns, Facings, Inlays, etc. They are Thin, Tough, and Durable.

Samples of Disks and Literature will be sent on request if mention is made of this journal.

If your dealer will not supply you with our goods, send direct to the makers.

WM. R. HALL & SON,

115 N. 17th St.,  
Philadelphia,  
Pa.

THREE SIZES.  
GRITS AND SIZES.

FLEXIBLE.

WATERPROOF.

PRICE,  
40 CTS. PER DOZEN.

# BROMO-CHLORON

## THE MOST POWERFUL of BACTERICIDES.

### What Dentists Say of It:

"I am using Bromo-chloron in place of pyrozone, which is enough said. It should displace peroxide of hydrogen for nose, throat and ear work, where the 'foaming up' causes pain, which is not true of your remedy."

"I have been constantly using Bromo-chloron in putrescent nerve canals and find it a very effective agent. After one or two treatments I find the canal free from odor, thoroughly aseptic and in a fit condition to fill permanently."

"I have had excellent results with Bromo-chloron and consider it a valuable medicine for the dentist."

"I have used it with amazing success in surgical cases, i. e., chronic abscesses in superior maxilla as well as in simple dental abscess."

"In the treatment of pulpless teeth Bromo-chloron has no equal."

*Carton of five vials sent postpaid for \$1.00.*

**The Beese Chemical Co.,** 21-23 Ann Street,  
NEW YORK.

**Br Cl O<sub>2</sub> Ca**

## ODONTUNDER.

Over Ten Years' Standing Without a Single Fatality.  
Write for our Special Terms.

**Odontunder is Guaranteed to give Perfect Satisfaction.**

Odontunder will not deteriorate. Every bottle guaranteed. Cash to accompany order or goods sent C. O. D.

Single Bottles, 2 oz., \$2.00 by Express.

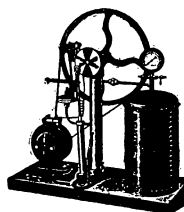
Three Bottles, 6 oz., \$5.00 by Express prepaid.

Six Bottles, 12 oz., \$10.00 by Express prepaid.

Beware of any one else offering Odontunder for sale or claiming to have bought the formula. Odontunder is sold only from the house direct.

**Odontunder Manufacturing Co.,**  
FREDONIA, N. Y.

*Representatives: Commercial Reports, Fredonia National Bank.*



### PHYSICIANS' & DENTISTS' Electric Air Compressors

They start and stop automatically by variation of air pressure.

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1311 Dempster St., Evanston, Ill.

## CROSELMIRE & ACKOR CO. PLATINUM

In sheets or wire for all purposes.  
**PLATINUM SCRAP BOUGHT.**

Factory and Main Office: 42 Walnut St., NEWARK, N. J.  
New York Office: 10 East 23d St., Room 8.

Recommended by Dental Authorities

**For BLEACHING  
STERILIZING  
SAPONIFYING**



**(DENTAL SODIUM DIOXIDE)**  
per 2-oz. tin 75c. del'd, from dealers or  
**The ROESSLER & HASSLACHER CHEM. CO.**  
100 William Street, New York

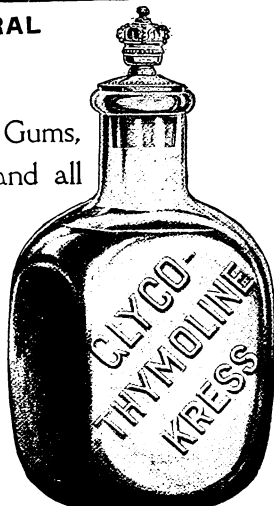
# GLYCO-THYMOLINE

IS INDICATED WHEREVER THE ORAL  
SECRETIONS ARE FOUND  
TO BE ACID.

In Pyorrhea; Alveolar Abscess, Spongy Gums,  
Chronic Ulceration, Abscessed Antrum, and all  
Abnormal conditions of the mouth the  
**Alkaline Antiseptic** treatment can-  
not be too strongly advocated.

**SPECIAL OFFER.**—This Sprinkle Top Bracket Bottle,  
together with samples for your patients, will be sent free  
to any dentist mentioning this journal.

**Kress & Owen Company,**  
210 FULTON STREET. NEW YORK CITY.



## THE ALKALINE ANTISEPTIC

### RELIEF FROM PAIN IN DENTISTRY.

IS AS DESIRABLE AS IN THE PRACTICE OF MEDICINE.  
WITH THE HIGH INDORSEMENT OF THE MEDICAL PROFESSION

## PHENO-BROMATE

WHICH HAS PROVEN ITSELF TO BE

**"The Ideal Product of its Class"**

is now offered to the dental profession.

A prominent New York dentist has stated: "It affords me sincere  
pleasure to recommend this product to my fellow practitioners, and  
I feel that in so doing I am presenting to their attention an agent  
of especial value to the dental profession."

Pheno-Bromate is a perfected synthesis of a phenol  
and a bromine derivative, and is a most agreeable seda-  
tive, having the combined properties of relieving pain and  
reducing abnormal temperature without depression or  
other objectionable action.

LIBERAL SAMPLE AND LITERATURE SENT FREE ON APPLICATION.

**THE PHENO-BROMATE CHEMICAL CO.,**  
38 MURRAY STREET, NEW YORK.

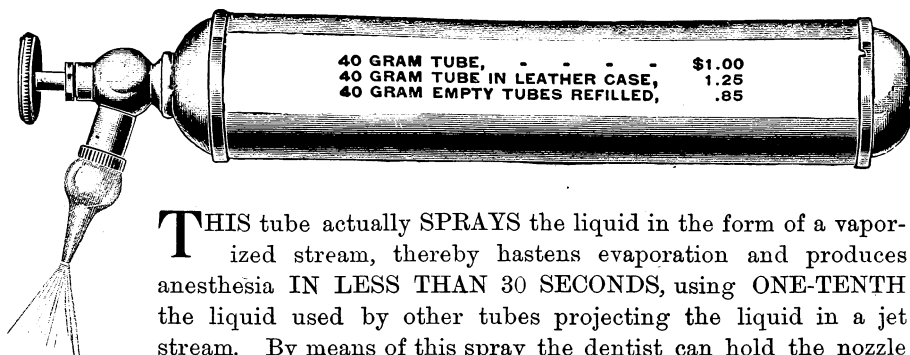
This Tube  
actually sprays  
the liquid

# GEBAUER'S ETHYL CHLORID C.P.

40 Gram Tubes  
Refilled  
for 85 Cents

EVER READY LOCAL ANESTHETIC PERFECTLY HARMLESS

This liquid has a boiling point of 12.5 C. and is guaranteed to be absolutely pure.



THIS tube actually SPRAYS the liquid in the form of a vaporized stream, thereby hastens evaporation and produces anesthesia IN LESS THAN 30 SECONDS, using ONE-TENTH the liquid used by other tubes projecting the liquid in a jet stream. By means of this spray the dentist can hold the nozzle ONE INCH from part to be anesthetized and no liquid will mix with the saliva or run into the throat, but evaporates as soon as it strikes the surface.

MANUFACTURED BY  
**THE GEBAUER CHEMICAL CO.**  
5 Fleet Street, Cleveland, Ohio



"It didn't hurt a bit!"

## WHY?

His Dentist gave him



"Antikamnia & Codeine Tablets"

## When to Use Them

### FIRST

To ease the nagging and shooting pains while operating; to quiet the nerves, and prevent the headaches and nausea which frequently follow operations, administer one Antikamnia & Codeine Tablet every hour. Give one before beginning operation.

### SECOND

One Antikamnia & Codeine Tablet given before and another one after extracting a tooth, will stop pain and allay irritability.

### THIRD

When a painful cavity exists, or a nerve or root is exposed, administer internally one or two Antikamnia & Codeine Tablets and fill the cavity with the powdered tablet, or apply it freely about the gums.

### FOURTH

For toothache, earache and facial neuralgia, administer one Antikamnia & Codeine Tablet every two hours until relieved.

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The Antikamnia Chemical Company St. Louis, Mo., U. S. A.

**BETA**

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**TULLER reports:**

*(Dental Cosmos, April, 1903.)*

"After using Beta-Eucain in over 343 extractions, and in numerous cases preparatory to crown and bridge-work, I have yet to find the first case of sloughing or other after-effects."

May we send you our brochure, "Beta-Eucain in Dentistry"?

**BETA**

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**SCHERING & GLATZ, Sole Agents, New York.**

# A Dental Requisite

**Orthoform**

A Local Anesthetic, quieting pain when applied to dental cavities or after extractions, without interference with tissue repair; the anesthesia lasting for hours and sometimes days

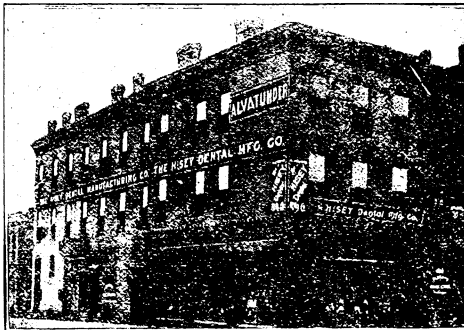
*Literature upon application to Sole Agents for the United States*

**VICTOR KOEHL & CO., 122 Hudson Street, New York**

FREE Information Bureau for Visiting Dentists.

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FAIR  
CITY  
1904



INQUIRIES  
PROMPTLY  
ANSWERED

**10th and Olive Streets, One Block West of Post Office.**

**HISEY DENTAL MFG. CO.**

Every  
**SURGEON  
PHYSICIAN  
AND  
DENTIST**  
should  
have



**DR. R.B. WAITE'S**  
ANTISEPTIC  
**ON HAND**  
MOST OF THEM DO!

**QUALITY  
THAT'S WHY**

**The Antidolar M'fg. Co.**  
SPRINGVILLE, ERIE CO., N.Y., U.S.A.

There is no Local Anesthetic on the market that costs as much to make as

## SUP-RE-NOL

and none that is sold as fairly. We made our prices right at the start and did not have to reduce them to meet competition. It is worth all and more than any other. For sale by all dealers.



**PRICE**

1 oz. 75c.; 5 ozs. \$3.00; 10 ozs. \$5.00.

SHAFER-PIERCE CO., Minneapolis, Minn.  
Wholesale Agents



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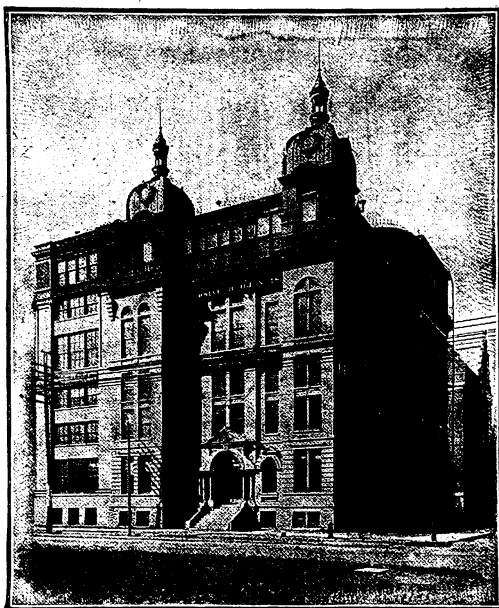
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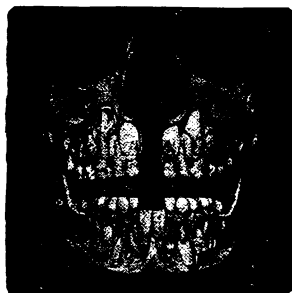


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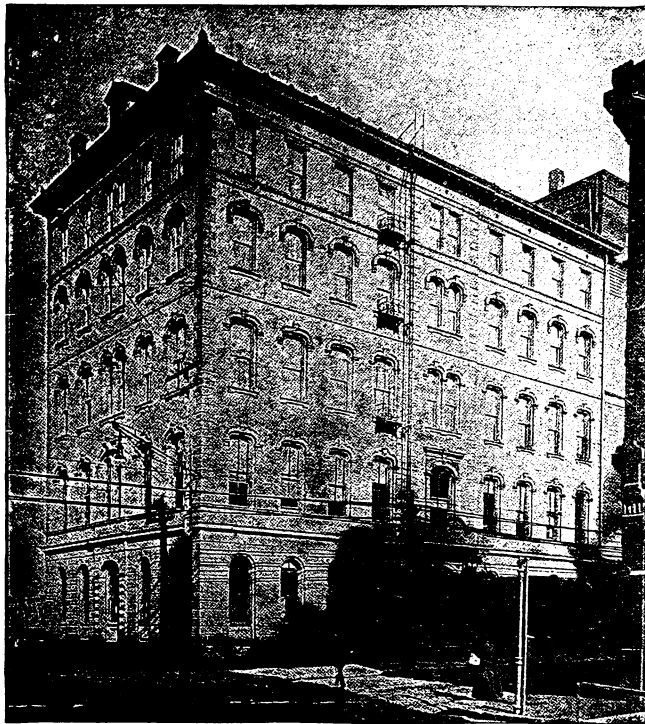
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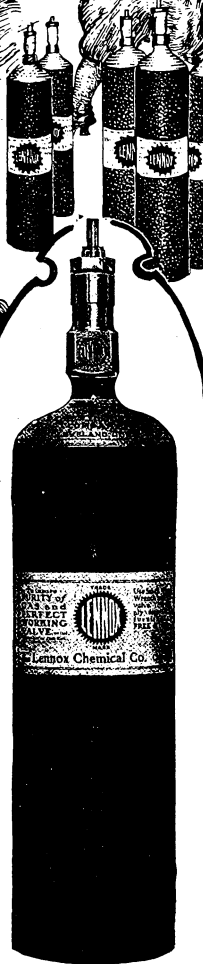
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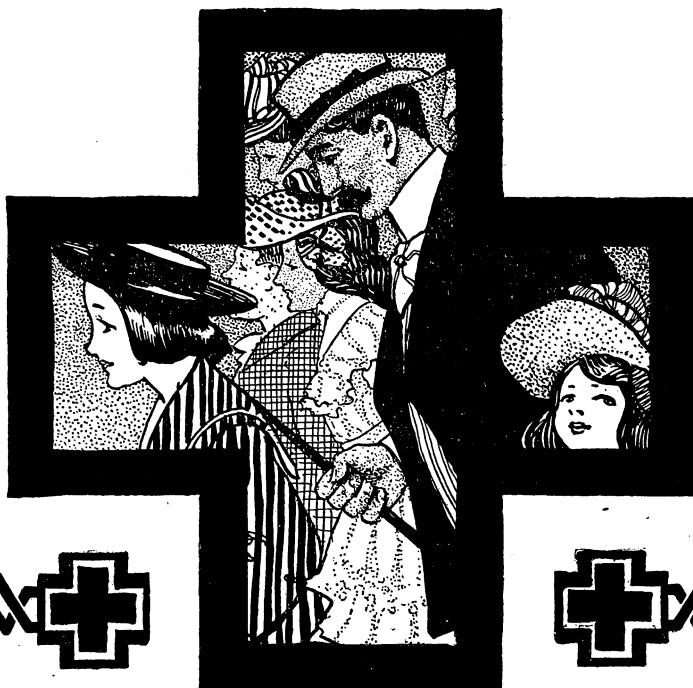
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